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ABSTRACT

A detailed conceptual framework describing curriculum development pursuits as they are actually carried out in a cross-section of developed countries is presented. The nations surveyed were Sweden, the United Kingdom, and the United States. The ultimate goal of the study is to make available to developing nations, facing profound social changes, a source text and guide to possible educational applications and decisions that these nations may make in working out their own educational destinies. Case studies of the surveyed nations were written using data based on questionnaires and interviews with a broad spectrum of education professionals engaged in teaching and administration at all levels from kindergarten through college. Common concerns and shared patterns of curriculum development are described. (JD)

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Comparative Analysis of Infrastructure in Curriculum Systems and Strategies: The Case of Developed Countries

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COMPARATIVE ANALYSIS OF INFRASTRUCTURE IN CURRICULUM SYSTEMS AND STRATEGIES: THE CASE OF DEVELOPED COUNTRIES

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July 1977 Taher A. Razik

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PREFACE

Educators everywhere in the world today have acknowledged the fact that a number of factors produced by rapid social change have complicated immeasurably their tasks of curriculum development and implementation. Educational institutions, typically slow to change, have been drawn into unprecedented activity by new demands and expectations, as the numbers and varieties of persons to be educated and the reasons for educating them have risen exponentially. To the leaders of these institutions, innovation has not only seemed advisable, but inescapable, if they are to manage successfully the learning experience of the populace.

Though substantial numbers of theoretical models of developmental practices have become available, it appears that these explain less and less the contexts, processes, and events of which curriculum workers should know more and more. Educational policy makers and researchers freely admit that the mechanisms which are described officially are frequently not the actual procedures involved in curriculum development, and the discrepancies between the two are often quite remarkable.

Since theory and practice are recognizably somewhat at odds, it has seemed of primary importance in this study to describe as realistically as possible what actually occurs in curriculum development in the nations surveyed. Documentation of curriculum development in the *formal* sense is readily available in other publications of the Organization for Economic Co-operation and Development. Such documentation has served as a valuable frame of reference, but is by no means the focus of the present discussion. It is only as formal structures and processes are compared with actual and less idealized practices that information sought by this study has emerged.

The point of view taken here is that it is the *differences* which emerge in the comparison that are most revealing and that are of special significance for future planners.

Hence, it is the factual, functional relationships -- as they occur and as they may be strengthened or altered -- which take center stage in this analysis. It is believed that such functional relationships are a critical area of concern to many, and perhaps particularly to those developing nations which seek to identify and anticipate the implications of such relationships for their own changing educational system.

The questionnaire employed and the interviews conducted were designed to elicit informality and openness in response, to allow respondents to speak for themselves rather than in official capacities. The fact that there are wide variations even among respondents from the same country testifies to the success of this strategy, for it is divergence rather than convergence of opinion which is being tested.

Nevertheless, commonalities of concerns and shared patterns of curriculum development can be described. Two of the most consistently noted problems is the difficulty of introducing large scale innovations, as well as the lack of coherent planning for the introduction of innovations on a smaller scale or in successive stages. The development planning process in most nations, developed or otherwise, apparently leaves much to be desired in terms of conceptualizing built-in change mechanisms which can be activated to encourage continuous research and revision of curriculum. It also leaves much to be desired in terms of effective involvement and utilization of different levels and different kinds of educational personnel. These findings are not typically unexpected, but they do serve to locate more precisely what appear to be the most significant gaps between theory and

practice in the entire curriculum development process.

In order to view current curriculum strategies and personnel utilization in appropriate perspective, a brief historical analysis is included. Attention has been given to the unique circumstances and the interrelated factors which seem to have produced useful variations from country to country, as well as to those procedures and effects which are apparently universal. The assumption is made that cultural diversity can and should be preserved in curriculum development, but that underlying processes tend to fall into recogrizable and similar patterns and stages of development, regardless of what nations are under consideration.

Chapter I

DIMENSIONS OF THE STUDY

The comparative analyses of curriculum development processes and case studies undertaken here are the consequences of preliminary conversations with educators in a number of developing countries which are currently faced with profound social, economic, and educational changes, occuring at a phenomenal rate. Of course it is not educators from developing nations alone who are overwhelmed by the proliferation of curricula and curriculum documents, the accumulation of a vast literature on educational variables, and the cry for educational efficiency and relevance from every sector of their national populations. But these are matters of pressing concern for nations now engaged in massive national educational reform. The ultimate goal of this study, therefore, is to provide a detailed conceptual framework describing curriculum development pursuits as they are actually carried out in a cross-section of developed countries. The finished survey is intended as a source text and guide to possible applications and decisions which may be made by developing nations as they work out their own educational destinies over the next few years.

This document represents the completion of two phases of study: the tabulation and interpretation of a ten-part questionnaire, and the review of in-depth interviews conducted in Sweden, the United Kingdom, and the United States. These countries were selected on the basis of their relative positions with regard to centralization of the curriculum development function, with Sweden representing the most centralized, the U.S.A. least centralized, and the U.K. somewhere in the range between these two extremes.

This second phase also includes a synthesis of additional printed materials provided by respondents to the questionnaire.

The Study

The first phase -- development, distribution, retrieval and analysis of this questionnaire (See Appendix 1 for a complete copy of the survey instrument) -- is in essence a trend study, conducted for the purpose of identifying similarities and/or outstanding differences among respondents in their understandings of curriculum and curriculum development processes. The survey instrument was developed by a team of advanced graduate students and faculty in the Instructional Communications Program of the Department of Curriculum Development and Instructional Media, State University of New York at Buffalo, U.S.A. After a first draft had been prepared, it was submitted to other university educators who specialize in the curriculum development field for their evaluation and suggestions. On the basis of feedback from these sources, several revisions were made before the finished questionnaire was mailed to respondents.

Though this questionnaire focused attention on several issues considered by the investigators to be particularly pertinent, an open category called "Other Comments" was provided to encourage the expression of opinions on issues not addressed in other contexts and not necessarily anticipated. It was realized that many respondents might see no need for a distinction between curriculum and instruction; nevertheless they were asked to differentiate between these key concepts by defining each term in their own words.

Ten categories of questions were used: I. History of Curriculum Development, II. Organization and Structure, III. Legislative and Social Framework, IV. Analysis of Current Curriculum Development and Change Processes, V. Decision-Making Patterns, VI. Personnel Selection, Training,

and Promotion, VII. Role of Research in Curriculum Development, VIII. Exchange with Other Countries, IX. Evaluation, and X. Personal Observations.

Out of 60 questionnaires mailed, 37 responses have been received from 15 different countries, including many from countries which have been further researched in face-to-face interviews. Though a higher percentage of response would obviously have extended the data base and improved the study, primary response criteria for the survey have been met. Sample size was interpreted in the research design as subordinate to other variables such as multi-national representation, completeness of answers, and expressions of interest in the outcomes of the study. On these counts, the response has been gratifying and has served to substantiate several inferences which are made in regard to the ubiquitousness of specific curriculum development problems.

One of the major purposes of this study has been to determine to what extent groups other than professional educators are perceived to be legitimately included in the curriculum development process, and to identify if possible the weight which is given to input from lay or non-educational sources. Another primary goal has been to survey the extent to which change agents or deliberate change mechanisms are integrated overall in the separate development schemes of developed nations.

A third critical task of the survey instrument has been to assess the level of intensity, the frequency, and the distribution of training programs designed to prepare curriculum developers for their work. A further question the survey was designed to answer is whether there is generally a discrepancy between ideas as to which groups should participate in curriculum planning and ideas as to which groups should receive *training* for such

participation.

The investigators have sought to identify existing reward structures which encourage training for and involvement in curriculum innovation.

There has been considerable interest also in possible correlations between the prevalence of such reward structures and the perceived effectiveness of curriculum development efforts.

In light of the widespread interest which has been generated by such developments as the standardized Swedish Individualized Mathematics Instruction program (IMU) and the progress of German and English designers working cooperatively toward an international social studies curriculum, it has seemed significant to ascertain the majority opinion of respondents in regard to the feasibility of creating a standardized international core curriculum in other basic skill and content areas.

As will appear in the item-by-item analysis to follow, these questions do not exhaust the issues upon which the questionnaire is based, but they do serve to indicate the direction of the questioning. In spite of the fact that every effort was made to provide a response format that would be simple to use, a number of respondents have commented that time considerations forced them to reach an uneasy compromise between superficiality and comprehensiveness.

The In-depth Interviews

Attempts have been made to compensate for the brevity of the data collected via the questionnaire by the strategy of in-depth interviewing. In these interviews, basic (but generalized) demographic data concerning each country was collected to constitute a descriptive backdrop upon which the data on curriculum development machinery might be projected. To round out the characterization of each country and its curriculum renewal object-

ives and strategies, a wealth of printed materials contributed by respondents was abstracted and incorporated with the data from interview.

Summary

Though many discussions have taken place at the international level and many significant reports have been prepared concerning the comparative problems, current practices, and primary arenas of curriculum development work, opportunities for making private, informal, and -- at least in so far as possible -- anonymous statements about how this work is perceived seem not to have been provided. It has been a specific purpose of this questionnaire to elicit this kind of informality and individuality from persons knowledgeable about the "state of the art" of curriculum development in their respective nations, expecting that there would be perceived differences even among respondents from the same country.

It was anticipated that, where opinions tended to differ most from respondent to respondent, controversial and, in all likelihood, still unresolved issues might be identified. Where a high degree of agreement could be noted among respondents from one country, national trends might be indicated; and if the agreement extended across the full range of sources surveyed, it should suggest that no further analysis of the issues so universally agreed upon would be necessary.

Though it was not imagined that the results of this sort of data base and data gathering would be dramatically different from the results which might be obtained through summarizing an assortment of conference reports and working papers, the survey was designed to integrate salient factors and ideas in a systems-analytical manner. The focus has therefore been systems and sub-systems of curriculum development, and how (and to what extent)

these interact with each other.

In short, this study has sought to achieve a useful synthesis of international experience with various types of educational systems, with the rationale for the particular design of each system, and with the processes set in motion as a result of their respective orientations and underlying assumptions about the nature of curriculum and curriculum decision-making.

Chapter II

THE SURVEY

The data which the questionnaire utilized in this survey has elicited falls into three kinds of response categories: constructed answers, check-list answers, and list rankings. The method used to analyze and compare constructed answers is non-statistical, except for a few relevant comparisons phrased as percentages. Check-list answers and list rankings, having more objective bases, are analyzed by means of appropriate statistical procedures.

To maintain the direction and continuity implicit in the questionnaire as submitted to respondents, the responses to each question are recorded here in the same order that they appear in the survey instrument. Although there is obvious conceptual overlap among the categories of questions, these categories have been preserved in the reporting of responses for purposes of analytical focus and clarity. It is assumed that, subsequent to the micro-analysis, question-by-question, which appears below, the reader will be better prepared for the discussion of trends in the questionnaires as a whole which concludes this survey report.

No individual respondents are identified by name, since the aim of the survey is to present trends and variances rather than to quote idiosyncratic sources. As respondents often indicated in accompanying letters or on the questionnaire itself, none wished to claim to be speaking officially on behalf of his or her government and none represented his or her answers as definitive on other grounds. In short, the responses are to be interpreted as current best estimates of a group of cooperative, thoughtful individuals who are now playing or have recently played a major role in curriculum

development in their countries.

In the analysis which follows, discussion of each category is prefaced with a brief rationale for the questions included in the category and a short description of the strategies which were employed to try to pinpoint differences between formal-idealized and informal-operational curriculum development practices.

Thirty questionnaires were returned in time for statistical analysis. (Later returns are, however, included in the descriptive summary at the end of this chapter.) Of the returns tabulated, three were from Sweden, five were from England, Wales, Northern Ireland and Scotland (U.K.), nine were from the United States and thirteen were from other countries, including Canada, Finland, France, Germany, Netherlands, Norway, Spain, Turkey, and Yugoslavia. (Responses from Italy are among later returns.)

The responses to each question involving checklists or rankings have been tabulated in percentage figures in most instances or whenever possible. For example, if six of the nine U.S.A. respondents answered yes to a particular question, it would be regarded as 67 percent agreement and in this way it could be compared with the percentage of agreement from other countries represented. However, to avoid the confusion which easily arises whenever a large number of tables and percentages are incorporated into the discussion, it was decided to use three descriptive categories rather than cite actual percentages. These categories were arbitrarily assigned as follows:

Percentages	*Descriptive Category*
80 - 100%	Very definite influence/high agreement
45 - 79%	Very probable influence/moderate agreement
20 - 44%	Slight influence/agreement

Thus, instead of including actual percentages, question by question, only the descriptive terms above will be used.

Category I : History of Curriculum Development

Both of the questions in this category were designed to identify respondents' perceptions of the major influences and sources of trends in curriculum development in the countries surveyed. Both questions allowed multiple responses, signifying that a complex of influence might be at work in the determination of development trends. The questions and responses follow.

Question I A. Please indicate with a check (✓) the items which you feel represent the major influence in the historical development of curriculum in your country:

_____1. *Governmental planning agency - National*
_____2. *Governmental planning agency - State*
_____3. *Governmental planning agency - Local*
_____4. *Teacher councils*
_____5. *Use of curriculum models from other countries*
_____6. *Influence of industrial development*
_____7. *Influence of social and moral pressures of community*

Responses to I A. Sweden's respondents feel that government planning at the National level has a "very definite" influence. Influences of community and of industrial development are also cited. In the United Kingdom, teacher councils, industrial development and community pressure are all seen as having a "very probable" influence. The community is

viewed in the U.S.A. as having a "very definite" influence on historical development of curriculum (89 percent of the 9 responses) and influences from two other sources -- local government planning agency and industrial development -- are considered "very probable." Government planning at both federal and state levels are perceived as having a "slight" influence.

The responses from the other countries in the survey regard government planning at the national level as a very definite influence, though Canada cites provincial government as the major source of influence. Use of curriculum models from other countries and the progress of industrial development are both seen as having probable influence on the history of curriculum change in these nations.

Question I B. In most developed countries the trend is toward equal educational opportunity for all citizen groups. Please identify with a check (✓) the factors which you think have contributed most to this trend in your country:

____ 1. *Increasing public interest in education*
____ 2. *Need for more adaptable labor force, able to solve problems of rapidly changing society*
____ 3. *Development of instructional techniques which increase efficiency in learning*
____ 4. *Changing patterns of authority and moral sanctions*
____ 5. *Need for greater numbers and training of specialists*
____ 6. *Greater financial resources available for education*
____ 7. *Great increase in subject content, availability of new materials and equipment for mass education*
____ 8. *Pressure of central government toward more democratic school policies*
____ 9. *Social demand for more interaction between school and community*
____ 10. *Realization of educators that knowledge is an activity, not a commodity*
____ 11. *Public demand for life-long learning opportunities*
____ 12. *Need to prepare students for more complex modern life, whatever their adult occupations may be*
____ 13. *Example of other advanced nations which seek to conform to patterns of democratization in education*
____ 14. *Development of planning activities which bring together both citizens and educators*
____ 15. *Other (Please specify.)* _____

Responses to I B. In Sweden, the pressure of the central government toward more democratic school policies is seen as a very definite influence, though the need to prepare students for more complex modern life and the availability of greater financial resources are also definite influences in the development of equal educational opportunity. Very probable influences are increasing public interest in education, the need for a more adaptable labor force, and social demands such as the demand for life-long education.

The responses from the United Kingdom indicate that increasing public interest and greater commitment of financial resources are exerting a definite influence on the democratization of schools of England, Wales, Scotland, and Northern Ireland. Pressure of government, changing patterns of authority, need for development of an adaptable labor force and the increase in subject content are viewed as probably contributing some additional influence.

In the U.S.A. the responses reveal many probable influences on the development of equal opportunity rather than any specific and very definite influences. These include changing patterns of authority, pressure of central government, need for a more adaptable labor force, greater financial resources, increasing public interest, need for a greater number of well-trained specialists, and social demands for more interaction between school and community.

Other countries cite five definite influences: pressure from the central government, increasing public interest, need for an adaptable labor force, and the use of curriculum models from other countries.

Respondents who used the "other -- please specify" option in this question have referred primarily to ideological shifts in society toward

more democratic policies as well as to pressures from organized minority groups which energize movements toward opportunity. One respondent considers the "political and teleological" discussions which are taking place among educational and social scientists to be an influential factor. Labor majorities in the constitution of national governments are seen by some respondents as a democratizing influence. Another respondent suggests that maintenance of cultural identities and separate languages of different ethnic groups within one country poses particular challenges in terms of providing equal opportunities for education.

One European respondent cites the modern educational ideal of developing each students' fullest potential as exerting continuing influence, and a respondent from the U.S.A. believes that greater demands for individual self-realization -- such as women's and black liberation movements, and movements toward participation in grass-roots political decision-making -- have a strong influence on provisions for equal educational opportunity. The Civil Rights legislation in the U.S.A. is cited as an example of results of these grass-roots demands for guarantees of access to education for all citizen groups.

One respondent specified as an influential factor the trend toward accountability in educational resources management, which forces educators to consider cost effectiveness as both a means of and a requirement for equalizing opportunity.

Category II : Organization and Structure

The questions in this category sought to identify the degree of centralization of curriculum decision-making and to specify what agencies and/or individuals have direct responsibility for overseeing curriculum change

processes.

One question asked for a ranking in importance of persons or groups -- political professional, or community -- who might theoretically be involved in curriculum development. It was thought that a comparison of respondents' perceptions of existing structures and their perceptions of the relative importance of various groups as contributors to the curriculum development process could reveal serious discrepancies between development theory and practice. It was also hypothesized that the more firmly centralized the educational structures and controls, the lesser the likelihood that citizen or student groups would be viewed as important in the curriculum development process.

The final question in this category asked for an unequivocal answer to the question of which persons or agencies are most accountable for establishing and changing curricula, and to whom they must ultimately justify their decisions.

Question II A. The degree of centralization of educational structures and controls is an issue in most curriculum development. How is your educational system currently organized with respect to:

1. *The national government?*
2. *Regional educational authorities and agencies?*
3. *Local communities?*

Responses to II A (National level). In Sweden, curriculum development is to a very high extent centralized, with a common syllabus for the whole country. Education acts are legislated by the Riksdag (Parliament), school regulation is in the hands of the Ministry of Education, and implementation of regulations is the responsibility of the National Board of Education.

The situation is described by respondents as very different in the United Kingdom. The national government enacts broad policy and lays down

duties of local authorities, as well as subsidizing a major part of the educational expenditures. In Scotland, it is reported, there is a Consultative Committee on the Curriculum at the national level, to which members are "selected in their own right and not as delegates." The chairman of the Committee is from the Central Department.

England's universities exert an indirect influence through the University Grants Committee (UGC). For schools, colleges, and polytechnic institutes, the national Department of Education and Science (DES) decides broad policy issues and allocation of resources, having some influence (which seems to be increasing) over curriculum.

In the U.S.A., perceptions varied among respondents as to the degree of educational control exercized by the federal government. One respondent stated unequivocally that his educational organization -- a training collaborative for educators -- is "not responsive to any national government, or educational goals, or priorities established by any national government." Others saw national control as limited, with most federal programs aimed at equal opportunity, research and development, career education, and equal protection. The federal government is viewed as the main source of uncommitted money which is made available for new curriculum ventures, exerting little or no influence through legislation of standards but substantially influencing curriculum development through its selection of projects to receive financial support. In summary, the national government is viewed as having little direct legislative authority over schools and school curricula, being primarily influential through funding and through recommendatory committees. The Department of Health, Education and Welfare is concerned largely with recommendations, but some observers see overall movement toward more centralization of control over curriculum through such events as

the current National Institute of Education (NIE) Curriculum Study.

In other nations, high degrees of centralization of curriculum control at the national level are the rule. Canada is an exception; curriculum is a responsibility of the provinces there. The respondents from France, Norway, Finland, Turkey and Spain all frankly state that educational structure is centrally designed and controlled. In Germany, however, the perception is that federal control is limited, and that national agencies work cooperatively with the states to plan and fund education. The influence of universities and vocational training schools is noted in Germany, as in England. A respondent from Norway also reports a trend toward gradual decentralization.

Responses to II A (Regional level). The County Boards of Education in Sweden are responsible for supervision and inservice training of school personnel, but since curriculum development is firmly centralized with the national government, regional authorities have little responsibility in this regard.

In the United Kingdom, regional authorities have "a wide range of powers to provide an educational service that meets the criteria of the national government." In other words, LEA's (Local Educational Authorities) enjoy autonomy in relation to many curriculum matters. Although in organizational structure LEA's are rather standardized, their work results in a wide variety of patterns from LEA to LEA. These agencies also work with extensive support systems, including advisors, Teachers' Centres, etc. These regional authorities are perceived as having "fairly strong influence," although this influence is indirectly exercised through resources allocation and advisory services.

In Scotland, regional authorities have control of curriculum in schools

and colleges by statute. In Northern Ireland, they are perceived as offering considerable assistance in the provision of services and equipment.

The "regional" equivalent in the U.S.A. is the state, and individual states have a wide range of degrees and types of authority over curriculum matters. All states, however, exercise a general sort of control, outlining curriculum "bundles", certifying educational personnel, supporting costs of schools in varying amounts. (In one state, 100% of the costs are paid by the state; in others, only 20% of costs are raised through state funding. The average state aid is about 45%.) States generally regulate the *minimum* curriculum to which students will be exposed. In some states, there is great influence at the state level over curriculum. New York State, for example, has a Board of Regents and a Commissioner of Education. Both agencies mandate curricula.

Most states provide guidelines for local school districts to follow, and consultants in content areas are made available to assist local districts with curriculum development. New materials may on occasion be subsidized by state funds. Various regional agencies which cut across state boundaries often assist in the dissemination of new curriculum materials.

One respondent suggests that, regardless of the amount of authority and centralization of control which resides theoretically with state governments, state officials are often too far removed geographically and operationally to influence day-to-day school activities to any significant degree, "especially in more subtle matters."

The regional influence in several other countries is relatively weak, but viewed as increasing in importance. Some operate mainly on authority delegated by the central government, as in Spain. In Finland and Norway, the regional or county boards are seen as increasingly significant as

coordinating, supervising, advisory, and assisting bodies which mediate between the control of the central governments and the needs of local school systems. In Germany, the state level of educational authority functions to influence the principles and guidelines upon which curriculum is built, although universities particularly remain rather autonomous in choice of content and other syllabus affairs.

The regional authority in Canada -- the province -- in at least one case has recently undergone radical decentralization. In January 1969, the Province of Ontario abandoned its former organization of work-prescribed curricula, courses of study, and an Inspectorate. As one observer has commented, the "dust is still settling" and the full implications of this thrust toward greater local control are not yet known.

Responses to II A (Local level). The local responsibilities of the Municipality School Boards in Sweden are largely of the operational sort -- provisions for school buildings, teaching aids, meals, transportation, etc., but there is apparently a current trend toward decentralized decision-making and greater local financial freedom. If this trend continues, curriculum affairs may also take on more distinctly local characteristics.

In the United Kingdom, local communities influence educational matters through elected representatives serving on Local Education Committees. There are also parental groups formed in association with schools. Neither elected community representatives nor parents groups are perceived as carrying any great weight as far as the curriculum is concerned. The Taylor Committee was cited as currently reviewing the status of linkage between the schools and local communities, both in terms of how such linkages accomodate local concerns and in terms of stimulating public interest where

it is lacking. Some respondents indicate that more community control is desirable and is being sought by the communities themselves. It is very clear, however, that local control rests primarily in the schools themselves.

The elected Boards of Education structure in the U.S.A. "has resulted in highly localized phenomena." Not only do communities exercise control through these elected citizen boards in influencing policy decisions, but some boards are also actually assuming administrative prerogatives. Whatever the particular powers of individual school boards, in general they have major financial, legal and logistical responsibilities. They draw up school budgets, plan building renovations and new construction, approve hirings of school personnel, etc.

Some school boards assist with community needs assessment surveys for the purpose of providing data to influence the directions of curriculum developments. However, as one respondent noted, though "local community will is probably the decisive influence, it is fragmented, since different local groups disagree. The result is a kind of compromise 'average' consensus." In other words, the pressures from the community for curriculum change come from many different groups with different vested interests, but practical compromises among these varying -- and sometimes even antagonistic -- groups are reached. Not all U.S. educators are in favor of this extensive influence exerted by communities, feeling that more worthwhile educational goals are sometimes distorted or destroyed by short-sighted local concerns and local budget decisions which are guided but by no means controlled by state and federal directives. Others feel that the real strength of U.S. education lies in its local community participatory democracy.

As in Sweden, many other countries envision an increasing role for

school boards in municipalities and other localities. A respondent from Finland reports that, though highly centralized activities were necessary for the implementation of comprehensive school reform, current trends favor delegation of power to localities in curriculum decision-making. A respondent from Norway notes a similar trend in his country. In Germany, the local community is seen as primarily influential at elementary and kindergarten levels, in terms of funding and in terms of requesting standards of competency of students.

Some countries did not comment at all in terms of local control or even drew lines through this level of organization, seeming to indicate that virtually no local community inputs to education are provided for.

Question II B. On a descending scale, 1 through 10, please rank the following kinds of structures and groups in order of the importance in the overall curriculum development process in your country (1 = most important; 10 = least important):

_____ *1. Federal Agencies*
_____ *2. State or Regional Agencies*
_____ *3. Local Agencies*
_____ *4. School Administrators*
_____ *5. Teacher Groups*
_____ *6. Individual Teachers*
_____ *7. Parents - Citizen Groups*
_____ *8. Curriculum Planners*
_____ *9. University and College Scholars*
_____ *10. Students*
_____ *11. Citizen - Educator Groups*
_____ *12. Other: Please specify.*

Responses to II B. Since this question asked for rankings, again the responses were handled statistically as frequency responses, using the very definite, very probable and very slight descriptive categories.

The United Kingdom, Sweden and other European countries seem in agreement that state and regional agencies exert a probable influence. Curriculum planners are named also as important to the development process. Unfortunately, the question has not provided for an adequate identification of these

planners, or for an explanation of how they are affiliated with schools or trained to do such curriculum planning. However, among European respondents as a whole, individual teachers and teachers' groups are perceived as having relatively little influence over curriculum development and are therefore characteristically not considered to be curriculum planners. England is prominently the exception, where teachers are often intimately involved in the planning process in the individual school units.

In the U.S.A., respondents feel that state, regional and local agencies have little influence in the question. They differed widely in terms of their rankings of relative importance of university, school administrator, teacher, student, and citizen groups. Some did not rank students and individual teachers as significant at all in curriculum development; others seem to interpret the question in a more ideally participatory sense, ranking students, teachers and administrators equivalently at the top in importance in curriculum planning. Some respondents mentioned textbook publishers as significant, using the "other-please specify" response option. One respondent in the U.S.A. ranked local agencies as of primary importance, with citizen-educator groups and citizen-educator-student groups as second and third in rank, respectively.

Opinions differed more widely among U.K. and U.S.A. respondents than among all other respondents -- perhaps for three separate reasons. As one U.K. commentator pointed out, the question was so phrased as to rule out much likelihood of consensus. A Swedish respondent found such a ranking rather irrelevant in light of the strong governmental centralization of curriculum planning. The lack of consensus among U.S.A. and U.K. respondents, then, would seem to be a function of (1) the higher degrees of

decentralization in these countries, (2) confusion over whether the ranking was meant to reflect what "actually exists" or what "ought to be", and (3) philosophical differences concerning the involvement of non-professional, "grass-roots" students and citizenry in planning what is to be learned in schools.

It must be admitted that such wide differences were not expected as actually appeared among U.S.A. respondents. Since most educational journals and teacher training programs are concerned prominently with increased teacher, student and lay community participation in curriculum planning and design, it is a bit disconcerting to find this trend not unanimously reflected or applauded among U.S.A. respondents.

Question II C. What specific agencies, institutions, or officials have been charged with overseeing curriculum development processes (if any), and to whom are they accountable?

Responses to II C. In Sweden, the agencies responsible for overseeing curriculum development are the School, Research and Development Departments within the National Board of Education (NBE). These departments are accountable to the Board of the NBE and to the Ministry of Education. The NBE itself is accountable to the Government and to the Parliament. Curriculum development work is carried on at the NBE by educators who serve for six years at a time as "consultants," in collaboration with active teachers and subject matter experts of various kinds.

In the United Kingdom, the Schools Council, established in 1964, has primary responsibility for curriculum and examinations, according to respondents. Though the Schools Council presently is an independent body responsible officially only to its own governing council, it has implied accountability to its sources of funding -- 50% from Local Education Authorities and

50% from the national government. At the national level, this amounts to accountability to the Secretary of State for Education and the Department of Education and Sciences.

In England and Wales, however, Teachers' Centres and other regional and local institutions are also designated agencies for curriculum development, and these are accountable to the Local Educational Authorities. One respondent signified that, in chronological development, the Nuffield Foundation "primed the principles of curriculum development," after which the Schools Council "took over." The Teachers' Centres have been established by Local Educational Authorities "in response to Schools Council suggestions." The pattern of development in Scotland is apparently much the same.

The Department of Education for Northern Ireland (Curriculum Committee) Schools Council and the Northern Ireland Council for Educational Research share curriculum responsibilities.

The U.S.A. is a varied scene, with curriculum development responsibilities distributed among federal, state and local levels. At the federal level, much of the accountability is a matter of responding to and implementing new legislation or other regulatory provisions (e.g., implementing curriculum plans for school racial desegregation; providing equal educational opportunities for the handicapped, etc.) One respondent has stated rather succinctly an overview of the situation in the U.S.A. With a few additions, the following is substantially what this respondent reports:

> A set of federally supported national and regional education laboratories have been established to *decentralize* curriculum - not to oversee it. Most curriculum development overseeing is done by state education departments and state school boards and by local school districts and local school boards. In the case of states, they are accountable to state legislatures; in the case of local

schools to the citizen (voters) of the school districts.

A. *NIE-National Institute of Education* - accountable to the executive and legislative branches of the national government.

B. *U.S. Office of Education* and subdivisions thereof - accountable to executive and legislative branches of the national government.

C. *State Boards and Departments of Education* - accountable to the state executive and legislative branches of the government. These have the most visible lines of authority.

D. *Local Boards of Education* - either independent governing bodies or responsible to a local government structure. Many school districts have curriculum supervisors who assist with in-school curriculum development. School superintendents are held responsible to elected school boards.

Another respondent from the U.S.A. cites the National Science Foundation as a strong curriculum influence which "*should* be acccuntable to the intellectual community [but] in fact, is accountable to Federal Administration and to Congress."

One commentator indicated his opinion that state and local agencies in the U.S.A. are typically not very effective precisely because they are not, in real practice, held accountable to anyone for their actions.

A few sections of the U.S.A. have Local Educational Authorities similar to those in Britain. A respondent describes LEA activities as follows:

> Each LEA is responsible for overseeing its own curriculum development process and they are in turn responsible to the public through its elected representatives on the school committee. Supplementary curriculum development activities and, more specifically, staff development activities are provided by the collaborative advisory committees in the development of curriculum related staff development. Members of the advisory committees are responsible first to themselves, secondly to the LEAs they represent, and thirdly, the peer groups they represent (teachers, administrators, college faculty, curriculum planners, etc.).

Other countries have designated that these agencies as listed shall have curriculum development responsibilities (in respondents' words):

Germany - There are several important institutes for educational planning. An example is the Bund-Landes-Kommision for Bildungsplanning which is very important as a funding and selection institution on a cooperative basis (linking national government and the states.)

Norway - Under the agencies of the Ministry of Education there are a number of expert advising councils:

1. The Basic/Nine Years School Council (Primary and Lower Secondary)
2. The Council for Further Education (Upper Secondary)
3. The National Council for Innovation in Schools
4. The Council for Innovation in Schools
5. The Council for Teacher Training

The National Council for Innovation in Education, working also with other National Councils, is solidly responsible for the national development work in the various types of schools: primary; secondary; teacher training etc. They are responsible to the Ministry of Education and the Parliament in their daily work as well as through their annual report. Steps are taken through legislation to decentralize responsibility to local/regional authorities and centers and schools and teachers. They are responsible to the parents as well as authorities.

Finland - The Ministry of Education, accountable to the Parliament, has the primary role. The National School Board, Section for School Experimentations and Research, and experts appointed for particular projects, are all accountable to the Ministry. The Centre for Educational Research (University of Jyvaskyla), and various ad hoc research teams are accountable to the Ministry and School Board.

The National Board of Education and specifically its Research and Development Bureau are charged with overseeing curriculum development processes and they are accountable to the Ministry of Education.

Turkey - Individual Educational Directorates or Departments and the National Board of Education are designated curriculum planners, though the National Educational Convention and Councils play a role as well.

Spain - *For Elementary School Curriculum,* El Servicio de Planes de Estudio y Orientacion has primary responsibility. This service is accountable to the General Director of Basic Education, through the Sub-director of Ordenacion Educativa.
For Secondary School Curriculum, El Servicio de Ordenacion Academica de Bachillerato, and El Servicio de Ordenacion Academica de Formacion Profesional are the designated Curriculum Development agencies. These services are accountable to the General Director of Ensenanzas Medias.

Canada - Ontario eliminated 1500 small local boards and created 150 county boards which are responsible for curriculum development with broad provincial guidelines. The Ontario Institute for Studies in Education (OISE) was created to lead the way -- a kind of Regional Lab.

Category III : Legislative and Social Framework

Eight questions were incorporated in this category, variously designed to explore ways in which recent legislative actions or expressed public

sentiment has influenced changes in curriculum and funding of curriculum efforts over the past few years in the countries surveyed.

Some of the questions in this section apparently proved difficult to answer, particularly in those countries where the focus of curriculum planning is highly centralized. Nevertheless, several common trends emerge, among which are increased opportunities for all students through the institution of comprehensive schools and increased attention to the demands for adult education. Questions and answers below indicate how these trends have developed.

Question III A. What legislative actions has your government taken within the past 20 years which you feel have contributed most to the advancement of education? (e.g., equal opportunity decisions, grant and scholarship opportunities, school funding, changes in examination procedures, etc.)

Responses to III A. From Sweden, the following legislative changes (with years of enactment) are reported:

1962 - 9-year compulsory comprehensive school, replacing earlier dual system.
1965 - new upper secondary school integrating earlier commercial and technical schools.
1971 - new upper secondary school integrating academic and vocational schools.

In addition changes in school law which have given rise to the "laroplan", or Curriculum Guide (issued by the National Board of Education) and to public grants to local authorities as well as study grants to pupils have advanced Swedish education. Improved teacher education and inservice training have also resulted. On behalf of adults, laws have been passed to facilitate study leaves and to provide state grants for adult learners.

Respondents from the United Kingdom have cited a series of acts which have had major influence over the past few years. In England and Wales, the changes are seen as beginning with the Education Acts of 1918 and 1944, the raising of the school learning age, the pressure toward comprehensive

action, and the establishing of the Certificate of Secondary Education as an alternative to the General Certificate of Education. Following the decision to make all secondary education non-selective (i.e., comprehensive), *these legislative acts have further enhanced educational opportunities in the U.K.:*

1964 - Establishment of the Schools Council
1973 - Work Experience Act
1974 - Establishment of the National Assessment of Performance Unit (viewed as not yet effectively in use, but as making a potentially significant contribution)
1975 - Equal Opportunities Act (legislation to correct practices of sex discrimination)
1976 - Education Act of 1976, abolishing the former tripartite system.

In other U.K. countries, many of these same developments are cited, as well as several major new issues. Scotland mentions help for the disadvantaged, the single examination system, and individual guidance and counseling for pupils as among these issues. A respondent from Northern Ireland views scholarships to universities and higher education, examination developments, and larger grants to voluntary school authorities as significantly influencing school change over the past 20 years.

In all U.K. countries, it is obvious that finding alternatives to the externally imposed General Certificate of Education examinations has been and continues to be a matter of vital concern.

U.S.A. respondents note that legislation which has advanced education has taken three separate forms: legislation concerning general funding for schools, legislation concerning special education, and legislation concerning vocational education. A set of laws aimed primarily at providing equal opportunity include the Civil Rights Act of 1963, the Elementary and Secondary Education Act of 1965 and the Higher Education Act of 1968. These laws are viewed as having given form to the demands of minority groups

for improved educational planning and educational support systems to meet their special needs. One law, the 1965 Elementary and Secondary Education Act, channels federal funds by "title" to selected educational programs and selected school populations, helping to equalize resource imbalances created by radically different local levels of school funding based on local property taxes and variable state aid. These funds have been especially helpful in development of compensatory education programs such as "Headstart" for children of "inner cities" of large U.S. metropolitan areas.

Other laws cited by respondents from the U.S.A. are :

1957 - National Science Foundation legislation (mandating that the NSF foster science education and science awareness in schools and colleges).
1958 - The National Defense Education Act
1962 - Manpower Development and Training Act
1963 - Higher Education Facilities Act
1964 - The Economic Opportunity Act
1965 - The Elementary and Secondary Education Act
1965 - The Higher Education Act
Since 1965 - The Education Profession Development Act-Public Law 90-35
Since 1965 - The National Institute of Education Act-Public Law 92-318

In the same time period of approximately 20 years, other countries cite similar reforms. A Canadian respondent says that the number of universities doubled during the 1950's and 60's and that centralization gave way to decentralization. Twenty-one community colleges were created and a research and development center established, in one province alone, during this era.

In Western Europe generally, legislation has been primarily focused on extending the compulsory school and instituting comprehensive secondary school systems. Some have already completed the transition from select schools to comprehensive schools; others are still in process. Attempts have been made legislatively to encourage equalization of opportunity for

students regardless of socio-economic status, including the creation of low-interest loan funds and various student grant opportunities. Reforms have led to consideration of life-long learning, with programs being designed for early childhood years as well as for adult learners. In at least one responding nation, the enactment of a republican form of government is perceived as in itself advancing the cause of education.

Question III B. What legislative actions do you think are currently needed to improve the quality of education?

Responses to III B. Respondents from Sweden suggest that legislative actions are not necessarily the answer to current problems, which seem to be more operational than legal in nature. Changing school work-teaching patterns to achieve learning goals is one such problem. Others mentioned are the need for greater freedom at the local level in the use of resources and personnel, and the need to broaden the aims and content of teacher education. One respondent, taking a more sociological perspective, indicated that current problems include (1) the introducing of vocational elements in the theoretical lines of upper secondary schools, (2) structuring of upper secondary schools so as to promote recurrent education (i.e., reentry in the school system after periods of work, travel, assuming family responsibilities, etc.), (3) strengthening the opportunities for equality between sexes in education and working life, and (4) facilitating the educational and social integration of immigrants.

England, Wales and Scotland in the United Kingdom also see further legislation as perhaps less relevant than making what is already provided for more operational. Respondents generally feel that quality of education is not a matter of legislative sanction. Respondents from Northern Ireland offered no comment. Some changes tentatively suggested by respondents for

the future of education in the U.K. are: (1) provision for greater flexibility in the timing of the compulsory education period, (2) an increase in attention to the needs of the 16-19 age group, (3) unification of the system of Higher Education, and (4) further development in in-service training of teachers.

U.S.A. comments show open concern about changes in school funding. Declining enrollments and unequal funding patterns from locality to locality lead some respondents to ask for federal standardization. Others ask not for increased federal regulation but for decentralization of federal funding to local levels, providing local systems are made accountable for quality education in return for autonomous decision-making about use of funds. The latter group of respondents resists the idea that the nature of schools should be determined federally. A respondent representing a school staff development cooperative states firmly that "We do not look to the legislature for solutions to local educational needs." Some local control advocates do, however, favor legislation to make educational choices possible for consumers -- i.e., to allow parents and their children to use voucher systems which would allow them to choose alternatives to the public schools without incurring tuition costs.

Assured levels of realistic financial support for curriculum and program budgets, and support for curriculum development and dissemination in non-science fields are described as crucial to further advancement in education. *Respondents from the U.S. offer this composite list of legislative needs:* (1) equality in financing of public education -- within states and among states -- (2) federal support of educational research and development, (3) a national minimal standards act for education and citizenship, (4) a national professional certification act which would make individual state

teacher certifications uniformly meaningful and therefore accepted in all states as indicating that explicit criteria have been met, and (5) a national institutional accreditation act, which would standardize the educational and staffing criteria in all states and presumably the quality of education across the nation. It should be noted that this list might not be generally endorsed among U.S. educators. Many remain entirely unconvinced that federal intervention of this sort will solve problems which are peculiar to regions, states, or local communities, and some fear that greater problems might be created by shifting the responsiveness of local school systems from the local consumers of education to the federal officers who would administer such programs in a manner perhaps oblivious to local intents and purposes.

In other countries, responses ranged from a brief Canadian "no legislation needed -- the design is sound and the problem is how to make it work" to rather specific listings of advancement of education. In Germany, some counter-balance to the heavy emphasis on the sciences is considered necessary. Also, preparation for life-long learning is a German concern, as is provision for greater flexibility in curriculum planning at all levels of schools. The syllabus demands are viewed as too constraining, tending to dictate 90 to 95 percent of what is to be learned and leaving little room to meet individual needs or to encourage experimental school development programs. French respondents suggest that clearer definition of educational goals, more effective organization, and better recruitment procedures would be helpful. In Finland, completion of the extension of the comprehensive system to secondary education is looked forward to, and it is suggested that laws which would facilitate the development of vocational and secondary education as well as curricular reform within universities and colleges

would improve educational opportunity in this country. Turkish respondents cite the need for an industrial training act (none currently exists) and for financial support for educational technology. They, too, look forward to fuller implementation of educational acts already in force, and to development and application of new teacher training and classroom teaching methods. Respondents from Spain see the need for legislation to facilitate the democratization of education generally, as well as to improve methods of financing and of making individual schools more autonomous. Experimental schools and enhanced professional training of teachers are also included in Spanish hopes for the future.

Question III C. Approximately what percentage of national, regional, and local budgets are allocated to education?

1. _____% *National*
2. _____% *Regional*
3. _____% *Local*

Responses to III C. Most respondents could give a reasonably firm percentage figure for the amount of the national budget expended on education, but percentages varied widely from respondents within the same countries in regard to regional and local expenditures. It seems likely that not only do such expenditures vary within countries, but also that local expenditure figures may be harder to find among the resource materials available to the respondents.

Estimates of Sweden's expenditures for education ranged between 10% to 13.3% of the national budget. In the United Kingdom, estimates ranged from 5% for Scotland to 12 and 14.5% for England and Wales, in the latter case representing 7.7% of the Gross National Product (GNP). Local Educational Authorities may receive from 45 to 65% of local budget funds.

In the U.S.A. estimates of expenditures for education ranged from .2% to 10% of the national budget. The greater variation in responses here may be a function of lack of availability of source materials or of the use of different criteria for what would be considered educational spending. Estimates ranged from a low 30 to a high 80% regarding the amount of total educational funding which comes from the local level, with most estimates falling in the 40 to 60% range. Again, this figure would actually vary greatly from community to community, but the point is made that local communities provide through taxation a very large proportion of the educational revenues for their schools.

Other nations indicate a range of from 5 to 18% of total government budgets is spent on education, with highest expenditures in those countries where local control of schools is virtually non-existent.

Question III D. Please specify other kinds of sources of educational funds, if any, (e.g., private corporations, benevolent organizations).

Responses to III D. Swedish respondents did not respond to this question, and other Scandinavian nations indicated that, aside from public funding, no other sources were available. A respondent from Norway suggested that private publishing companies, through investment in the development of instructional texts and other materials, do make contributions to the educational scene.

In the United Kingdom countries of England and Wales, the Nuffield Foundation is cited as having provided large-scale support for curriculum development activities, especially in sciences, mathematics and modern languages. Rowntree, Leverhume, and Woolfson foundations are listed as among other sources of educational funds. Occasionally, U.S. sources

contribute to England's educational development (e.g., Ford and Ulbenkian foundations).

England and Northern Ireland report some private endowments to schools outside the state system and also fees which provide revenues to non-public schools. In Scotland, it is perceived that private funds are available only for special research projects.

The picture is different in the U.S.A., because of the existence of a large number of national non-profit foundations which are concerned with education (e.g., Ford and Carnegie foundations) and because of the practice of corporate giving, particularly to institutions of higher learning. Both private non-profit and profit-oriented institutions, including labor unions, have made available large sums to support research, development, pilot programs, and local improvements in education. "In-kind" contributions are common, in which educational institutions "match" gifts from outside sources such as industry by developing internal fund-raising projects (e.g., soliciting alumni contributions, endowment funds, and gifts from estates of persons who have been affiliated with or interested in educational development). Perhaps because of the traditional heavy reliance on local funds, private individuals and private corporations are deeply involved in the development of educational support systems and in the dissemination of information about existing educational programs and facilities.

In other nations, a few private foundations and parents' associations are involved in school funding, but it is obvious that such assistance is not of any major significance in the total national effort. Only Germany, among the continental European countries surveyed, considers independent funding institutions of great significance. The Deutsche Forschungsgemeinshaft (DFG) and the Shiftung Volkswagenwerk are named as private funding

sources which are not linked to industrial interests. Still another funding source, however, is described as linked to a kind of industrial consortium, composed of representatives from various kinds of industries and concerned for the development of manpower and new technologies in cooperation with the nation's schools.

Question III E. Specifically, how are curriculum development efforts funded in your country and how are these funds distributed?

Responses to III E. In Sweden, curriculum development funds are almost solely administered by the Research Unit of the National Board of Education, although some projects also receive funds from the National Bank's 50th Anniversary Fund or the Swedish Council for Social Science Research.

United Kingdom curriculum development funding has been largely channeled through the Schools Council since its founding in 1964, using annual grant money voted for this purpose by Parliament. In turn, Local Education Authorities, Teacher's Centers and other local school initiatives in curriculum development receive distributions from these funds. In addition, some national funding comes directly through the D.E.S. (the Ministry). The National Foundation for Education Research (NFER) and the Social Science Research Council (SSRC) conduct more "fundamental" research projects which may have impact on future curriculum development processes.

Respondents from Scotland state that national resources provide funds for 5 National Curriculum Development Centers: 1) Primary Education 2) Social Subjects 3) English Language 4) Foreign Languages 5) Math, Science, and technical. There are National Committees for other subjects, but no centers. Local and Regional authorities supply finance in kind; i.e. - staff time piloting work in individual schools within their jurisdiction.

In the U.S.A., curriculum development is still funded primarily through budgets of local school districts, although federal or other grant monies, when available may supplement local funds. The states may provide consultants, when the particular projects undertaken seem to warrant this. No "formal" system for such curriculum development is easily identified; efforts are diversely initiated and diversely funded. One respondent represents this diversity as follows:

> Curriculum development is undertaken by the National Institute of Education, through Regional Laboratories; by the National Science Foundation through grants to universities and non-profit organizations; by the Office of Education through grants to state and local educational agencies, by private foundations through grants to organizations and agencies, and by local school systems through local personnel.

At the local development level, explicit funding may not be available, but this does not prevent innovative behavior among school personnel. A U.S. respondent reports that "One innovator supported herself by working as a janitor, and one worked as a baby sitter, so as to be free for curriculum development work that was unsponsored." Presumably, this work was done when the innovator involved had received released time from instructional duties, but was granted this time without pay.

Other sources of curriculum development in the U.S.A. are Local Educational Authorities (LEA's) where these exist, university research centers, and Schools of Education. As one respondent comments, federally sponsored projects tend to receive most attention and widest dissemination, but, though well-funded, these are not necessarily the most significant contributions made. Federal projects tend to lack grass-roots support of individual school systems, in many instances, and are often not well - integrated with regular school activities. Often, as well, federal funding is withdrawn before any provisions have been made for continuing evaluation and

revision of the project outcomes. Curriculum development efforts are generally directed at specific objectives for specific target groups; an integrated, national, system-wide plan of curriculum change goals and strategies is not apparent.

Other countries report that the bulk of curriculum development funds are devoted quite exclusively to curriculum alteration and reorganization rather than to research, although research teams are often associated with various national agencies and are sometimes located at prominent universities. Finland, for example, reports that the National School Board funds approximately 50 percent of curriculum research and development, and that the National Board for Vocational Education, the National Board for Social Welfare (early education), the Ministry of Education itself, the Academy of Finland and the Centre for Educational Research at the University of Jyvaskyla sponsor the remaining R & D (research and development) projects.

Germany indicates that the Bund-Landes-Kommision (BLK) serves as the managerial institution for national and state efforts in curriculum development, having sponsored over 400 separate projects since 1973. Individual school initiatives also produce new curriculum materials and revised curriculum organization.

A Canadian respondent indicates that in the Province of Ontario, the Ontario Institute for Studies in Education (OISE) utilizes 2-3 million dollars annually in research and development funds. Local school boards also fund projects and the Ministry of Education operates a grant program.

Question III F. Of the total educational budget in your country, approximately what percentage is earmarked for curriculum development?

_____ %

Responses to III F. This question proved nearly impossible to answer. In fact, though some "sheer guesses" were made, and labeled as such, the diversity of sources of curriculum development and variations from locality to locality made even these approximations difficult. Some respondents openly stated that the data available did not match the sophistication of the question. Others suggested that the work "earmarked" needed further definition, and that "curriculum development" was also a term not sufficiently unambiguous to permit specific responses to the question. In general, the feeling in all countries seemed to be that whatever the level of funding for curriculum change or reordering, it was insufficient to meet the needs of rapidly changing societies.

Question III G. How is your national government made aware of funding needs for curriculum development?

Responses to III G. In Sweden, government awareness of funding needs for curriculum development is generated through the regular budget process, as the National Board of Education estimates those needs. Other initiatives come from the Parliament and the Ministry of Education.

Responses from the United Kingdom suggest that, although the Schools Council, the Local Educational Authorities (LEA's), Teachers' Associations and Her Majesty's Inspectorate are, in combination, in touch with all aspects of education, national politicians may remain typically uninformed and unable to agree upon school funding needs -- with the result that funding of curriculum development is insufficiently supported.

In the U.S.A., grass-roots democratic demands for changes in curricula and for appropriate funding are somewhat distorted by special interest groups which may not always act unselfishly. However, public opinions are voiced

directly via broadcasting, television and print media, as well as in communications to lawmakers, and indirectly through representatives of local teachers' associations and other educational agencies, some of which maintain lobbyists in state and national capitals. Special study commissions and research reports also furnish Congressional representatives and government bureaucrats with data on which decisions about general educational funding and curriculum development monies can be based. One respondent implies that, despite a number of official and unofficial communication networks, the level of public and government awareness is still not especially sophisticated. There is added comment that perhaps the new National Institute of Education will help to increase such awareness.

Among the other countries surveyed, a Canadian respondent perceives that since the government's role is limited mainly to funding of manpower and retraining programs, the question is not entirely applicable to the Canadian situation. Other countries admit that there are no specific channels for public input, other than those internal to several government agencies responsible for education -- such as the National Commission for Curriculum Planning and the Ministry's Standing Committee for Educational Research in Finland. Norwegian respondents state that, since the country is small, it is not so difficult for educational planners to keep in contact with lawmakers and make them aware of needs. A comment from the Netherlands indicates that it is not difficult to get government support for projects which are devoted to equalizing opportunity.

It may be the vastness of the United States which makes the maintenance of communication channels between populace and government so crucial, but it is also probable that the system of local school control necessitates that a variety of mass and individual information routes be kept open from

grass-roots to federal representatives.

Question III H. How would you characterize public sentiments toward education in your country? (Please check (✓) the statements which you find most applicable.)

_____1. *Demand for greater educational opportunity for all*
_____2. *Apparent satisfaction with the current educational system*
_____3. *Demand for greater emphases on career (rather than strictly academic education and therefore an interest in applied arts and sciences)*
_____4. *Demand for greater recognition of affective elements of education and therefore an interest in changing student/teacher relationships*
_____5. *Unrealistic tendency to expect education to solve all social problems*
_____6. *Uneasy feeling that though mass education is here to stay, attention to individual needs is insufficient and has not kept pace with school democratization*
_____7. *Children are not as well educated as they used to be; achievement standards have been sacrificed to social equality*
_____8. *Demand for accountability of effectiveness of educational programs*
_____9. *Other: Please specify.* _____

Responses to III H. Over 90% of all responses to this question said that there is wide-spread public belief that children are not as well educated as they used to be. It must be remembered that the respondents are educators who were asked to state their *impressions* of public sentiment; these responses are not based on public opinion polls or other sampling procedures. Most respondents cited the prevalence of public demands for accountability of effectiveness of educational programs.

In Sweden, there was moderate agreement on three characterizations of public sentiment: (1) Children are not as well educated as formerly, (2) there is an unrealistic tendency to expect education to solve all social problems, and (3) there is a general demand for greater recognition of affective elements.

At least 80% of respondents from the United Kingdom feel that they most often encounter these six public attitudes: (1) Children are not as well

educated as formerly, (2) there is an unrealistic tendency to expect education to solve all social problems, (3) there are demands for accountability in educational effectiveness, (4) there are demands for greater and equal educational opportunity, (5) there is an emphasis on career preparation, and (6) on the whole, individual student needs have not been met.

Among other nations, there was strong agreement that demands for greater educational opportunity for all were an overriding popular concern in their respective countries. There was moderate agreement that the public feels individual needs are insufficiently provided for and that children are not as well educated as they used to be, perhaps because achievement standards are partially sacrificed to social equality. A Finnish commentator noted appropriately that almost all of the listed kinds of public sentiment are to be found in some sectors of the population, and a respondent from the Netherlands added in the "other - please specify option" that "many groups find that the innovation goes too fast." Spanish respondents add that people are also concerned about "the growing degradation of discipline" and "the rise of political centers which interrupt academic activities."

Category IV : Analysis of Current Curriculum Development and Change Processes

With agencies responsible for curriculum change already identified, and with curriculum development funding sources named, this fourth category of questions focuses on the change processes themselves rather than on the educational structures concerned with change. Of particular interest to the researchers were questions concerned with how broad the bases for data collection may be, to what extent interpersonal relations are facilitative or obstructive in development projects, and to what extent successive

revisions are built into the implementation of new curriculum materials. As suspected, little attention is given in a majority of the countries surveyed to built-in curriculum change and development mechanisms which would automatically insure the updating of plans for use in school and of materials to be incorporated. Summaries of responses to each question follow.

Question IV A. How does curriculum change occur in your country? Please indicate with a check (✓).

_____1. *"Top down," with top administrative officers mandating change and directing the efforts of subordinate staff*
_____2. *"Grass roots," with change initiated and implemented in individual schools at local level*
_____3. *"demonstration," with changes introduced on a small scale via specific projects conducted in select classrooms, schools or groups of schools*
_____4. *combination of the above*

Responses to Question IV A. Nearly all respondents selected the fourth option above, and most also checked options two and three. It appears that respondents perceive curriculum change as a complex process, with vectors of influence coming from "grass-roots" movements as well as from demonstrations projects. Virtually no respondents gave emphasis to the "top-down" option, which is surprising considering the high degree of centralization of many national educational systems and in light of the fact that nearly the full weight of educational responsibility in these countries is vested in Ministries of Education and national boards of one sort or another.

Even though the grass-roots option was checked by one Netherlands respondent, he also expressed the feeling that the grass roots model "gets too much attention."

Question IV B. What are major problems encountered in the adoption of proposed changes?

Responses to IV B. "An unsatisfactory circumstance," reports a Swedish respondent, "is the long time lag between decisions made and their implementation throughout the school system." A compatriot expressed the view that there may be "too many reforms", so that "schools don't get time enough to adapt to the changes." Other problems lie in the fact that parents, pupils, and teachers alike prefer the familiar and tend to resist change. "The way teaching is!" is perceived as another problem, though the specific difficulties associated with current teaching practices are not further detailed.

In the United Kingdom, the problems are characterized as "manifold", with some of the major difficulties being associated with financing and resources, varying teacher perceptions concerning innovations, occasional failure of changes to produce the desired learning outcomes, and with a general inadequacy of understanding concerning the process of curriculum development. Scotland's respondents say that apathy, imprecision about the changes envisioned, and the social isolation of the classroom all plague efforts in curriculum reform. Respondents from Northern Ireland say they are frustrated by lack of time and by "lack of nearness" -- presumably referring to the same sort of social isolation of schools from national planning centers, from each other, and from their community contexts which was noted by Scottish respondents.

U.S.A. respondents list a wide range of problem areas:

1. "Cost is always the preeminent issue. However, the absence of documented need for change and predictable outcomes," related to long range planning, are perceived also as primary problem area.

2. There exist "inadequate teacher education, no satisfactory decision procedures, [and] an unfortunate tradition of survival by compromise and obscurity."

3. Because of the long tradition in the U.S.A. of public education,

the "status quo" is deeply entrenched and all change is judged in terms of this entrenchment.

4. There are lack of good communication, and difficulties in maintaining good morals and good leadership at the classroom level.

5. Educators may fear to risk change, not only because of local resistance, but also because "conflicting pressure groups" may act in ways "destructive to progress."

6. "The more significant proposed changes require that teachers learn new strategies and attitudes, and possibly that administrators take on unfamiliar roles (e.g., interdisciplinary)."

7. Dissemination and implementation of curriculum innovations are perceived as major difficulties, partly on the basis of problems which are cited above.

Canada, among other countries, agrees that implementation is a continuing problem. Response from Turkey suggests that there is "insufficient cooperation with industry and community to determine their needs." French respondents believe that procedures for control and evaluation of curriculum innovation need strenthening, and cite the problems raised by interferences from conflicting ideological points of view.

German respondents suggest that relative advantages of curriculum development as opposed to traditional reliance on textbook use have not been sufficiently clarified, and that "freeing up" behavior rituals in education which are historically and culturally stabilized often proves difficult. The connections between curriculum development and learning processes of both the construction and adoption groups have not been firmly established. (This statement is taken by the researchers in this study to mean that both planners and implementers of change need additional training to do their jobs well.)

Norwegian comments indicate that theory is advanced, but putting it into practice involves many uncontrolled factors, and in Finland, both

the lack of detailed planning and experimentation and the difficulties which teachers have in facing new roles and orientations are cited as significant problems. Spanish respondents have noted the lack of dissemination of relevant information to teachers and the lack of their participation in decision-making processes. Both Spanish and Italian respondents are concerned about administrative and other system rigidities, including teacher attitudes, which are slow to change.

Netherlands respondents cite "a not too strong belief in the effect of proposed changes," as well as unclear aims, "lack of research findings behind the proposals," lack of information and training, political resistance, a reform which is perhaps too rapid and is still too constrained by old systems, problems of attitude change, and lack of consensus among the board of a school, parents, and teachers. Yugoslavian response indicates that adequate teacher training and textbooks are a continuing problem.

Question IV C. To what extent are successive revisions a built-in part of the process of curriculum change?

Responses to IV C. Swedish respondents consider that, in their country, provisions for "rolling reform" are well established, with review of current curriculum and possibilities for major revisions occurring at seven to ten year intervals. Several other countries also report provisions for regular review and change.

In England and Wales, United Kingdom, respondents say that intentions to provide successive revisions are good, but that often in practice, the limited "life" of projects means that developers and other trained personnel are not able to remain in positions where they can oversee such revisions. (A Canadian respondent is succinct about this problem of longevity

of development, saying that "Projects get started, but not extended.")

Respondents from the U.S.A. in general are not satisfied that curriculum revisions are adequate or, if occurring, that they are actually well planned. One states ruefully that on-going curriculum revision may occur as often by accident as through planned management efforts. Another is more confident that "most curriculum goes through a process of continuing change with both process [formative] and production [summative] evaluation." Curriculum reviews may occur every five to ten years in most school districts, but given the common lack of sophistication concerning the actual practices of instructional revisions, these reviews often produce little change. A respondent offers this summary of the state of "rolling reform" in the U.S.: (1) The only consistent review of curriculum occurs at the local level if at all, (2) colleges and universities do provide assistance, and in some cases, strong leadership in this problem area, and (3) "constant public ferment" about education as reflected by the media and by scholar-educators constitutes another review process which often results in curriculum revision.

To respondents from other countries, "rolling reform" is apparently rarely actualized even when provided for in national legislation. "Built-in" mechanisms either do not exist or are not activated (except in periods of obvious crisis) in the press to accomplish other tasks. Only Germany, among the "other nations" surveyed, believes that a relatively high rate of successive revision is beginning to be achieved because of feed-back from primary target groups -- especially at elementary, primary, and secondary school levels. Respondents from several other nations believe, however, that their curricula are responsive to technological change forces which

are operating in their societies.

Rarely does successive revision take place at the classroom level, according to a majority of respondents.

Question IV D. To what extent are interpersonal relations considered and planned for in the process of curriculum change?

Responses to IV D. In Sweden, the role which interpersonal relationships play in the process of curriculum change is given more and more consideration, since these relationships are perceived as crucial both for facilitating planning and for encouraging implementation.

Respondents from the United Kingdom found it hard to generalize in answering this question; though there seems to be an increasing and even "extensive" consideration of the relationships among planners which can either facilitate or obstruct progress. The actual provisions for dealing with individual differences in interpersonal relationships within groups vary from project to project.

Though at least one respondent from the U.S.A. considers this question "unanswerably vague," other respondents' replies range between statements that interpersonal relationships are of "limited concern" and expression that these relationships are "too often ignored." One respondent feels that "Within the last ten years interpersonal relations have had an increasing influence on curriculum change." Where plans are made for training groups in cooperative behavior, the results are mixed; the training may be done well or poorly. Among Local Educational Authorities, one respondent says, there is usually a fairly democratic process, characterized by "a high degree of interactive dialoguing."

In other nations, Finnish respondents state that comprehensive school

reform has shifted attention to co-planning processes among teachers and students, and Turkish respondents add that to the extent that teachers, administrators, and industrial representatives are co-planners, their interpersonal relations must be considered.

A respondent from the Netherlands states that, because there is a switch from "product" orientation to "user" orientation in the schools, curriculum development is practically concerned more and more with interpersonal relationships.

In West Germany, it is reported, several different models for insuring systematic cooperation and interpretation between administration, scientists, school-based groups, and local communities are available and are variously used. Ontario, Canada "provides 12 days a year for 'professional development', i.e., pays for staff development (with children at home). Unfortunately, the programs provided are general in nature, not linked to curriculum development."

Another Canadian respondent states that interpersonal relationships are of great concern, and that "government field officers are all trained in 'T' or equivalent processes." There is some board emphasis on such training, as well. The "T" or training groups referred to are human relations laboratories in which participants learn behaviors which are important for group cooperation. A Spanish respondent says that such training for teachers and other educational personnel is an important ideal, not yet realized.

Question IV E. Curriculum development projects are often a response to other events. Please check (✓) one or more of the events listed below which you think have the greatest influence on curriculum development in your country:

_____1. *Educational or other Research*
_____2. *Scientific or technological advance*
_____3. *Social changes*
_____4. *Change within Educational Systems*
_____5. *A new, special educational need*

Responses to IV E. Statistically (in terms of response frequency), there is moderate agreement among Swedish and U.S. respondents concerning the citing of social changes as influential in curriculum development. There was modest agreement on the influence of scientific and technological advance in the U.S.A., whereas in other countries this influence is viewed as slight. Four out of nine U.S. respondents also cited new, special educational needs as exerting influence -- again indicating a statistically "modest" agreement. It seems apparent that research efforts are not considered as influential as might be hoped or expected.

A Canadian respondent added another factor which influences his country -- "the curriculum changes and social demands in the U.S. and to some extent Europe." "Political changes" were added to the list by a Spanish correspondent.

Question IV F. To what degree is curriculum planning an on-going activity?

Responses to IV F. This question was not sufficiently different, as stated, from question IV C. What was intended was a comparison between successive revisions as *planned and funded integrally* with other curriculum examination and revision which occurs at relatively fixed intervals. Some responses more appropriate to this question have been recorded under IV C. Nevertheless, some interesting new answers have appeared.

A Norwegian respondent admits that, despite the heavy work-load which on-going curriculum planning imposes, it has become a modern necessity, and

that at any given moment, "quite a lot" of people are engaged in responding to this necessity. Most other countries are beginning to realize the same necessities, though more traditional schools in each country among those surveyed are relatively unaffected. Some schools in the U.S.A. and the United Kingdom have "high-grade" teachers or curriculum "specialists" within individual schools who are charged specifically on an on-going basis with responsibilities for overseeing curriculum revisions. A respondent from Scotland notes wryly that the development process is on-going, but that "ratio of discussion to action is 10 to 1." From Northern Ireland, an educator reports that Teachers' Centres, a recent development there, offer promise that on-going curriculum planning will be more common in the future.

A U.S.A. respondent says that annual budgeting forces curriculum "streamlining" in efforts to produce best learning results for the least money. When curriculum change mechanisms are instituted, there is a constant battle to keep them creative and vital, for their tendency is to deteriorate into routine and bureaucratic ineffectiveness.

Category V : Decision-Making Patterns

All of the questions in this category are of the checklist variety, and are statistically treated.

Question V A. The following have been identified as possible loci or "arenas" for curriculum change efforts. Please check (✓) the frequency with which each of the following locations are utilized in curriculum development in your country:

	Never	*Sometimes*	*Often*	*Very Often*
1. single classroom	____	____	____	____
2. single school	____	____	____	____
3. local school system	____	____	____	____
4. entire state or region	____	____	____	____
5. entire nation	____	____	____	____
6. regional research and development centers	____	____	____	____

Responses to V A. Swedish responses showed single classrooms and schools as well as regional research and development centers as being "often" the loci of change.

In the U.S.A., the arena for possible change is usually the local level. In the United Kingdom, the same trend is indicated. Change is thought to take place either "very often" or "often" in single classrooms and single schools. U.S. respondents feel that entire states or the nation as a whole rarely offer an arena for curriculum change efforts.

Responses from other nations, yielded no statistical significance because of limited numbers responding from each country. In general, this question did not elicit additional information to supplement that already supplied by respondents in answers to earlier questions.

Question V B. In curriculum change processes, how are decisions actually made? (Please check (✓) items which are applicable.)

_____*1. by decree of national government*
_____*2. by school administrators*
_____*3. by trained curriculum researchers and developers*
_____*4. by teachers in their own classrooms*
_____*5. by teachers who participate in planning groups*
_____*6. by community advisory boards or parent representatives*
_____*7. by students who participate in planning groups*
_____*8. all of the above*

Responses to V B. In Sweden, respondents feel that all groups listed have some degree of involvement in the decision-making process. This is viewed as the case in Germany, also. Though all continental European and Scandinavian respondents name the national government as main decision-maker in curriculum change, a comment from the Netherlands points out that informal decision-making takes place at all levels.

The situation is different in the U.S.A. and the United Kingdom, where there is modest agreement that teachers in their own classroom make the

actual decisions.

Interestingly, 90 percent of all respondents to the questionnaire feel that students have very little decision-making power in curriculum matters.

Question V C. Please indicate with a check (✓) which group you think should be involved in decision-making about curriculum development:

_____ *1. central government officials, experts*
_____ *2. college and university scholars*
_____ *3. school administrators*
_____ *4. classroom teachers*
_____ *5. parents and citizens groups*
_____ *6. unions*
_____ *7. students*
_____ *8. curriculum specialists within schools*
_____ *9. curriculum specialists in regional educational agencies*
_____ *10. commercial curriculum development organizations*
_____ *11. Others: Please specify.* _____

Responses to V C. Swedish respondents feel that central government, school administrators, classroom teachers, parent groups, students, and unions *should* be involved in decision-making. In the U.S.A., there is moderate agreement that college scholars, classroom teachers and students should be so involved, and there are similar views expressed by respondents from the United Kingdom, who also included curriculum specialists and unions.

Responses from other countries are not statistically significant because of limited numbers responding from each country. In the "other-please specify" option, a Canadian respondent suggests that all groups mentioned might be involved *at different points* in the decision-making process. Another Canadian remarks that all imaginable groups have a stake in education and should, if they wish, have a say in curriculum decisions.

From Turkey comes the suggestion that chambers of commerce, industrial employees and employers might be represented in the decision-making about curriculum change, a suggestion not unlike the Canadian one above. A

Spanish respondent feels that decision-making is a responsibility of everyone implicated in education, and that the problem is what *respective* role each shall play.

U.S. respondents wished to include department chairmen and educational collaboratives (consisting of representatives from other groups listed) as vital to the decision-making process. A respondent from France suggested that scientists familiar with the learning process should be included, and that the whole educational system might be viewed as a "laboratory" in the scientific discovery sense.

Category VI : Personnel Selection, Training, and Promotion

This section of the questionnaire sought to identify the extent to which curriculum developers are actually trained for this work and how they may be compensated for their time and for the energy they exert.

Question VI A. Which of the following groups receive training in curriculum development prior to beginning their educational careers in your country? Please indicate with a check (✓):

_____ 1. *school and regional administrators*
_____ 2. *curriculum designers, researchers, and evaluators*
_____ 3. *classroom teachers*
_____ 4. *special teachers (e.g., media, library, art, music)*
_____ 5. *teachers' aides*

Responses to VI A. There was modest agreement in all nations surveyed that curriculum designers, researchers, and evaluators receive training before they begin their work. In a majority of European countries and the United Kingdom, classroom teachers are said to receive some training and in Sweden and the U.S.A., school administrators are cited as receiving specific curriculum development training before they enter professional life.

Special teachers (i.e., music, art, physical education, exceptional education, etc.) and teachers' aides receive little or no advance training in curriculum development, according to the respondents from all countries represented in the survey.

Question VI B. Which of the following groups receive additional training in new curriculum development concepts and techniques after they begin their educational careers?

_____ *1. school and regional administrators*
_____ *2. curriculum designers, researchers, and evaluators*
_____ *3. classroom teachers*
_____ *4. special teachers (e.g., media, library, art, music)*
_____ *5. teachers' aides*

Responses to VI B. In Sweden, there is moderate agreement that a school administrator will receive additional training in curriculum development. In the U.S.A., there is generally good agreement that teachers, school administrators, special teachers, and curriculum designers are likely to receive additional training in curriculum development techniques after they begin their careers. In all other countries represented, the curriculum designer is the only person very likely to receive additional training.

Question VI C. What training methods are used? (workshops, in-service education, continuing education, pre-service formal education, frequency of updating training, etc.)

Responses to VI C. Swedish methods for initial training and updating of curriculum development workers include workshops, in-service training (on an annual basis), symposia, literature, and on-going activity within the National Board of Education (particularly in its Research and Media units).

Though in the United Kingdom limited resources are viewed as a serious

impediment to training and retraining in curriculum development expertise, all U.K. nations report that workshops, courses, conferences, and post-professional training at universities (working toward higher degrees) are helpful in disseminating curriculum development concepts and skills among school personnel. A Scottish respondent estimates that about 8 percent of the teaching force is involved in in-service training of some sort at any one time -- although this is not necessarily curriculum development training in the specialized sense.

Comments from the U.S.A. indicate that all of the suggested forms of training and education are utilized, and that on-the-job training (on an "apprenticeship" basis) is an additional method used. Frequency of such training depends on financial resources, demand of school systems or of school personnel, and availability of trainers. "Most school districts," says one respondent, "require X days of such training each year." In other words, updating of information among school personnel is obligatory for a variable number of days per year. However, these training days are rarely utilized for sophistication of curriculum development skills in the technical sense; they are often more accurately "information-exchange days" in which teachers can view new classroom materials, interact with teachers from other schools, see demonstrations, attend lectures or seminars, etc.

Among <u>other countries</u>, Germany considers learning "on-the-job" an important way of "professionalizing" school personnel who are working on curriculum. All other countries surveyed make use of pre-service, in-service and workshop training sessions. Norwegian respondents feel that, though five days of training time annually is available for each teacher,

the very fact that this is "incorporated" in school planning may make it less meaningful, or "neglected as a specific theme." In Finland, such training as a specific technology is generally reserved for curriculum designers and administrators; teachers receive such training primarily, if at all, in continuing education programs.

Question VI D. How are paid staff rewarded for work on curriculum development projects? Please check (✓).

_____ *1. no reward*
_____ *2. possible promotions*
_____ *3. possible pay raises*
_____ *4. extra pay during project period*
_____ *5. travel expenses for conference paid*
_____ *6. released time*
_____ *7. payment of expenses for training or further education related to the development project*

Responses to VI D. There was over 95% agreement that staff were typically rewarded for work on curriculum projects in the U.S.A. by being given release time from regular instructional or other duties. This also seems to be the case in Sweden and the U.K., although most European countries also pay travel expenses when these are incurred by curriculum developers in the course of their work.

In the U.S.A., there seems to be greater likelihood than in other countries that curriculum development work may lead to extra pay during the developmental period, to possible subsequent pay raises, or to payment of tuition or other expenses connected with the project. Six out of nine respondents checked the pay options (numbers 3 and 4) and five checked the "expenses of training" option.

It is also evident from the responses that it is not unusual that curriculum development projects do not earn the developers any extrinsic rewards. Presumably this situation most frequently occurs when the development takes

place within individual classrooms or schools at the teacher's (or group of teachers') own initiative.

Question VI E. What changes would you recommend in current selection, training, and promotional practices in relation to curriculum development efforts?

Responses to VI E. From Sweden, a respondent offers the suggestion that there might be profit in the "inclusion of more classroom teachers in curriculum work to enhance consciousness of educational process." No attachments of reward are implied in this proposal.

In the United Kingdom, a chief need is seen for more in-service training, and as a result, the need for additional funding for that purpose. Some respondents state their reluctance to make any recommendations. One person suggests that promotions for curriculum development tend to remove developers from the localities where they can be most effective, and the implication is that other rewards might be more useful in encouraging trained personnel to remain at the school practitioner level. Scottish respondents seek more grass-roots involvement in curriculum development at an earlier date in the overall process, as well as much clearer articulation of purpose and rationale.

Though at least one respondent felt that the answers to question VI E were far too complex to be easily summarized, most U.S.A. respondents ask for better teacher training at the pre-service level. As one person says, "Teacher education programs need to 'catch-up' with the public schools in the areas of instructional programming. Too few teacher educator institutions are 'current' and vital." Another respondent indicates that many teacher trainees receive no undergraduate course work in curriculum, curriculum planning, and curriculum development at all, and his recommendation

is that these courses be far more universally required.

Others suggest the need for development of "strategic and tactical curriculum planning processes at local and state levels," for better vehicles for disseminating new practices (e.g., demonstrations in school buildings), and for "longer term efforts on a larger scale." Two people make specific reference to a new "curriculum specialist" role. The curriculum specialist would not only serve as in-service trainer, but as a guide through implementation phases. One of these two respondents stressed the leadership component of the new role, saying that "Curriculum developers should not only have comprehensive knowledge in their area of concentration but should have demonstrated leadership ability. Implementing curriculum changes is 10% knowledge and 90% leadership."

The respondents from several other countries in Europe, perhaps reluctant to assume the role of "recommenders" in their national settings, left this question unanswered. Others did submit suggestions they felt were potentially helpful. From Yugoslavia, hope is expressed that courses in curriculum development will be added to regular teacher training requirements as well as to in-service training. A respondent from the Netherlands asks for three months' training for personnel at local and regional centers; a year of full time training for university scholars in development, research and evaluation; and application courses (of unspecified length) for teachers. A second respondent from the same nation suggests the founding of a Department of Curriculum Studies at one of the major universities.

From Spain comes a recommendation that decisions shall become more scientifically based, and another from the same nation comments that the establishment of an autonomous National Center for Curriculum Development

and Evaluation might serve a two-fold purpose: to encourage developmental activity and to train curriculum developers and other technical personnel. A Norwegian comments that making selection, training, and promotion criteria for curriculum developers "more explicit" might serve to clarify the role and the common expectations surrounding it.

A German respondent envisions an integration of pre-service and in-service education, and a broad, diversified rotation system of professionalization. Ideally, such a system would provide on-the-job training for school staff participants over a wide range of roles -- from resource management, to participation in task group interactions, to budget planning and research activity. A similar rotation idea was advanced by a Canadian. To the researchers in this study, these suggestions seem clearly to recognize the interdisciplinary nature of the demands on school staff involved in contemporary educational planning. Though probably difficult to operationalize, such rotation schemes could provide constructive insights for all levels of personnel. Interdisciplinary thinking is often hard to achieve, but it may be vital to continuing educational progress.

Category VII : Role of Research in Curriculum Development

This category of questioning sought to discover existing relationships between curriculum research, development and dissemination (or diffusion) activities (RD & D) in nations surveyed. As anticipated, in most nations these are not especially well-integrated activities. In particular, dissemination activities are often not an intrinsic part of the development plans.

Question VII A. To what extent is research in curriculum development in your country:

1. a recognized part of curriculum change?

2. *supported by planning and funding agencies?*
3. *the consciously-planned responsibility of well-trained researchers who can employ c wide variety of research and evaluation techniques?*

Responses to VII A. In Sweden, research is considered of basic importance in curriculum change. It is supported by the NBE and other agencies previously cited in responses to question III E. Though funds are frequently channeled to researchers of many kinds (this was particularly true during the 1960's) it appears that, in the main, staffs of the Departments of Pedagogical Research and of teacher-training colleges and universities are best prepared to employ a wide variety of research and evaluation techniques.

In the U.K., the Schools Council is responsible for attempts to insure the integration of research and development -- to the extent that the Council "refuses to draw a hard line between research and curriculum development. Curriculum development is one form of action research." One respondent feels that, on a comparative scale, research and development may be most intimately related in Sweden, closely related in England and least related in the U.S.A. where there is likely to be heavy reliance on outside research experts. Considering other drains on educational funds, financial support to researchers is though to be fairly generous.

One U.K. respondent read into the question an assumption that researchers might be expected to assume "leadership roles" -- an assumption not current in England. This was not, in fact, an assumption of the questioners -- but the issue is an important one to have raised. It is true that in the U.S.A., "research" often takes on an authoritative flavor that may somehow be translated into role hierarchization among curriculum developers, even when such developers are working together as an interdisciplinary team.

The feeling in other countries that U.S.A. curriculum developers characteristically separate research and development is to some extent borne out by U.S. respondents, who seem to feel that research is legitimate and often intended, but rarely carried out, unless specific funds are set aside for it or unless the development projects have been initiated by colleges or universities. It seems apparent that the sort of "action-research" which the Schools Council encourages in Britain is either not considered "research" in the average U.S. educational circle or it is not a planned part of local curriculum development undertakings. One U.S. respondent suggests that "development" comes first, and "research" comes later. Another deplores the fact that grant guidelines of funding agencies often rule out the kinds of curriculum development and research that would be most helpful at the local level. In general, there seems to be agreement that research receives "fair" to "good" or "substantial" financial support, mostly from federal or non-profit agencies. The quality of research, even when carried out, is often suspect. One respondent hopes that more attention may be paid to the "teachability" of curriculum change. Another feels that, where working relationships between public schools and area universities are close, both development and research aspects are attended to, and the project outcomes have a good chance of success.

In other countries, though respondents feel that research should play a major role in curriculum development, it is currently employed to a very small extent, particularly in projects which are locally initiated. Where research is meant to imply evaluation and follow-up activities, there seems to be a particular inadequacy. Germany distinguishes between fundamental and applied research, but states that public and administrative interest in

both seems to have diminished over the past few years. A German respondent states, as "a special point of view," that best qualified researchers are likely to be those who are also informed about concurrent development and implementation problems.

Thus, although most respondents feel research and development *should* be closely linked, such linkages are often perceived to be lacking, distorted, or ineffective.

Question VII B. What would you like to see changed in current research and development practices in curriculum?

Responses to VII B. Two Swedish respondents seemed reasonably content with current practices; another suggested that the evaluation component of research might be improved to include evaluations of personnel engaged in development work as well as evaluations of researchers themselves and of curriculum products. The idea seems to concur with an idea gaining currency in the U.S. -- that decision-makers are themselves often insufficiently subject to evaluative review by *any* individuals or groups knowledgeable enough to make valid, objective, or reliable judgments.

In responses from the U.K., a concern for bringing perceptions of teachers and researchers into closer contact is expressed. One respondent feels that "less assertion; more research" would facilitate this unification. A Scottish respondent hopes for better sampling in the introductory phases of curriculum change and for a longer time-scale for the integration of innovations. Others in the U.K. feel that more initiatives and direct contributions from teachers, cheaper and more readily available materials and "more concentration on dissemination, adoption, and adaptation" are needed.

U.S.A. respondents are looking for (1) more imaginative research designs, (2) longer term funding for real change, (3) an "application medium" or special vehicle for linking research operationally with school practice, (4) the tapping of large reservoirs of talent which, currently without experience, could add vitality to the research, development and dissemination process, (5) incorporation of RD & D in programs of colleges of liberal arts (the person who suggested this believes that *all* education should be a part of liberal arts), (6) the application of "block grant" procedures "whereby school districts would receive monies for research and development in curriculum without conforming to the goals and priorities of the funding agency," and (7) centralization of RD & D functions nationally.

No agreement among U.S. respondents on these recommendations is implied; in fact, many of them are directly antithetical and might raise fierce objections in other respondents holding opposite views. But, at very least, these suggestions are thought-provoking.

Other countries seek better funding; more qualified research and development work; long-term planning; better dissemination; more innovative projects; and in the cases of Spain and Turkey, the creation of central agencies for training and utilizing a variety of personnel, including classroom teachers, in curriculum development work.

Question VII C. On the basis of 100 percentage points, please indicate what portion of research you think should go to the indicated areas:

1. _____% *New Content*
2. _____% *New Methods*
3. _____% *New Materials*
4. _____% *New Designs for School Facilities*
5. _____% *New Models for Curriculum Development*
6. _____% *Other: Please specify.* _____

Responses to VII C. With the exception of those from the U.S.A., *all* respondents favor spending more research efforts on new methods over expenditures in other suggested areas. Respondents for the U.K. think about 50% of the total effort should be invested in new methods; those from Sweden and other countries suggested 25 and 35%, respectively. Lesser amounts (13-20%) would go for new content, and an equivalent amount (13-20%) for new materials.

Respondents from the U.S.A. felt that new materials warranted slightly more research (34%) than new methods (24%), on the average. A majority of respondents from the U.S.A. and from Sweden are interested in new *models* for curriculum development, feeling that 18.33% and 15%, respectively, would be an appropriate investment in the total effort.

Additions made under the "other--please specify" option in this question made it clear that study of the *process* of curriculum research and development is needed. Swedish respondents would spend as much as 20% of the total effort on study of pedagogy and on the study of the social and intellectual development of children, as well. Finnish respondents are also interested in social education and learning motivation, and estimate that 25% of the research effort might be placed here. Spain, too, would spend perhaps 5% in basic research on the learning process.

In the U.S.A., two respondents feel that 10 to 15% should be spent to develop new evaluation models and techniques, particularly for the assessment of innovative projects which do not lend themselves well to traditional evaluative methods. Other U.S. respondents are interested in new modes of quality implementation, development of better planning procedures, and staff development or "renewal". From 25 to 50% might be spent in staff

development, for as one respondent states, "New methods, new materials, new models imply the need for training, and expenditures on the above are meaningless unless there is a commitment to training." A response from England adds that "No research which does not involve all of these and also deal in educational ideas is worth much."

Question VII D. Dissemination of new concepts and techniques in curriculum development is a responsibility that is often not clearly defined. Please check (✓) the persons or groups listed below which you think should be involved in dissemination:

_____ *1. central government*
_____ *2. administrators*
_____ *3. teachers*
_____ *4. researchers*
_____ *5. media specialists*
_____ *6. public relations personnel*
_____ *7. commercial developers*
_____ *8. curriculum specialists*

Responses to VII D. There was generally high agreement among the countries that curriculum specialists, teachers, and central government should all share in this responsibility. There was also moderate agreement that other personnel including researchers, administrators, and media specialists should assist with the dissemination of new concepts and techniques. A Canadian respondent remarked that all groups named should be involved in dissemination.

Category VIII : Exchange With Other Countries

This category is largely self-explanatory; it sought to discover the kinds of international cooperation that exist among educational institutions and among individuals involved in the educational process. The question of considering a standardized international core curriculum was generated through extensive reading of materials published by the Organization for Economic Cooperation and Development (OECD), which seemed to indicate that

educators in all countries are basically concerned with the same problems -- "core" or fundamental education, and educational elaborations of various kinds. Responses to this question are both interesting and instructive.

Question VIII A. Does your country cooperate with other regional systems and countries in any of the following ways: Please check (✓) as appropriate:

_____ *1. conferences on curriculum research and development*
_____ *2. visits of educational personnel to schools in other countries*
_____ *3. teacher exchanges*
_____ *4. student exchanges*
_____ *5. exchange of professional journals, books, other printed materials*
_____ *6. exchange of personal correspondence concerning curriculum development*
_____ *7. arrangement of cultural trips for student groups*
_____ *8. employment of educational consultants from other countries for special projects*
_____ *9. joint research projects and/or theoretical curriculum model-building*
_____ *10. release of educational personnel for sabbatical studies in other countries*
_____ *11. international conferences (OECD, UNESCO)*

Responses to VIII A. Respondents from the U.S.A. unanimously agree that international conferences (particularly those sponsored by OECD, UNESCO) were an important means by which U.S. educators are led to cooperate with and assist other regional systems and countries. U.S. respondents also agree strongly that the U.S. cooperates with other nations in curriculum research and development; student exchanges; exchange of professional journals, books, and other printed materials; arrangement of cultural trips for student groups; and release of educational personnel for sabbatical studies in other countries.

In Sweden and the U.K., there is moderate agreement that they cooperate in similar ways, but are specifically involved in conferences, visits to schools in other countries, and exchange of correspondence with counterparts in other countries.

All other countries responding feel that international conferences and

exchanges of personal correspondence and of professional materials are most frequent means of cooperation.

England and the U.S. said that little use is made of joint research projects and employment of educational consultants from other countries, perhaps because both nations have highly developed educational systems and no scarcity of educational specialists. Swedish respondents reported that student exchange, employment of educational consultants and release of educational personnel for sabbatical studies were not primary modes of cooperation with other countries.

Question VIII B. What advantages or disadvantages do you see in the possibility of standardizing core curriculum internationally? Do you believe that students in every nation study essentially the same basic content and seek to acquire basically the same skills? Can individual cultural traditions be preserved even if a standard core curriculum is offered in all nations?

Responses to VIII B. Because of the high emotional impact of this question, no attempt is made to separate responses by nation. Since it was a question directed "broadside" to educators of international status, it is appropriate that their responses be presented as an international sampling, and not as a country-by-country inquiry.

Some respondents can see "no advantages whatsoever and/or no real prospect of achieving an international core curriculum;" others wonder exactly what the term means and still others feel that genuine "world citizenship" could result from such an international curriculum development. There are very few among the respondents who seem totally unwilling to entertain the idea of exploring the question of what such a hypothetical core curriculum might be, although "reaching consensus" is viewed as a most difficult process in any context and "perhaps impossible" in the international context.

Some of the more challenging comments are recorded, verbatim, below, some answering all three parts of the question separately:

1- Disadvantages of standardized core curriculum internationally is the loss of cultural-embeddedness of the curriculum which enable it to draw upon and respond to indigenous characteristics.
2- Acquisition of same skills does not entail study of same basic content. I suspect the amount of common ground in relation to skills would be greater than in relation to content.
3- I don't know the answer to your question (3), but would doubt whether cultural traditions could all be preserved.

You can't be serious----Have you been to Mexico, France, Sweden?

1- Advantages-equivalence of qualifications (important for U.K.-European community)
Disadvantages-Reaching consensus difficult, perhaps impossible
2- Only in respect of literacy and numeracy. Divergence elsewhere [in skills and content]
3- In theory 'Yes'. In practice uncertain--evidence needed [that cultural traditions could be preserved].

Standardization hardly ever succeeds - I cannot speak in favor of it. Diversity is preferable to standardization when, as in this case, we aren't sure what the correct answers are.

All nations are not at the same stage of development. An international core curriculum would be disastrous as it would seek lowest common denominator. Students in all nations, *at the superficial level* have similar needs and subject *content* learning. Cultural traditions are often minority support being given to a dying culture.

There would be a great advantage for a "core" curriculum that speaks a minimum standard for world citizenship. Nationalism will continue to warp the priorities in other educational areas until into the early decades of the next century. At that point the "core" can and should be expanded to include focus on priorities for a world society that operates with a greater number of uniform demands.

Considerable advantages; Yes; Yes.

It would be useful to explore this possibility-. Suspect commonality would be in processes rather than content. See no major disadvantages. This would make an interesting paper.

Certainly we can standardize form in the core curriculum but standardization of content except in the most objective areas of math and the sciences would in effect deny the reality of cultural pluralism. I do believe that students in every nation seek to acquire the same basic skills, but I believe that cultural differences, national needs and local concerns must inevitably effect content. I see no particular benefit to a standard core curriculum outside of the more objective math and science areas.

The establishment of an international core curriculum seems to be a feasible effort; account must obviously be taken of national needs necessitating modifications and biases: cultural heritage, commerce, communicative program, etc.

We believe that a certain degree of standardization is desirable especially for highly technical curricula. That would yield a better use of human resources in the developed world. However, things are different for 3rd World Countries and for non-technical curricula. Standards, any way, should not be rigid, but flexible to countries and individual needs. In international curriculum standardization we see some problems for what concerns sensitive responses to local changes and overall coordination.

Even if there would be an international standardization of the core curriculum, what body or authority would be able to introduce it in the work of schools?....

In a technological age there must be a common core of basic skills....On the cultural side there must equally be variation...

It is possible and necessary. One part of the curriculum must be international...

I see little point to an international core curriculum except, perhaps, in certain areas such as peace education, study of world governments, intercultural studies which, if the political cooperation could be achieved, might yield a more harmonious world.

Comparative studies of curricula is already a difficult and controversial issue...Every nation has a different philosophy of education and therefore another valuing process of basic content and skills. What can we expect of such a project? What are the motives for such a need?

We think that there are possibilities to search for common general educational values (e.g., look at the Charter of Human Rights).

We can learn from each other, i.e., analyze nation-specific curriculum development in relation to national settings.

In a sense, the Council of Europe has already had an international influence.

There will always be *something* common for human beings, and more as they are educated and work on common problems. To *standardize* a core is practically impossible, and I think an unsuitable approach. Equality is not the same as sameness. Education should be rooted in local culture...Education can qualify people to make cultural choices. To start with a common core, same content, same skills, seems to create alienation rather than identity.

At the present, the danger of too high a degree of standardization seems to prevail, in a form of cultural imperialism. Naturally some common minimum skills can be defined. An empirical analysis of the content of core curriculum would be needed.

Taking into account that advanced countries form quite a homogenous group of nations, it is conceivable that they would benefit in adopting the same basic curriculum pattern and in the same time preserving their specific culture.

Advantages: It will facilitate communication at all levels; it will facilitate the dissemination of educational innovation.

I believe that students in all nations seek to acquire the same basic skills (reading, writing, and computation), but I also believe there are great differences in content.

Finally, I think that individual cultural traditions can be preserved if a standard - core curriculum is offered in all nations. But this preservation must be planned and systematically pursued.

Category IX : Evaluation

In this category, researchers sought to discover who and what is systematically evaluated, by whom (and to some extent), for what purposes.

Question IX A. Educational evaluation is often inadequate either because it is not well planned or because evaluators are not trained to make the particular assessments they must make. What personnel or groups in your country normally make evaluative decisions concerning the following?

1. *actions of political educational decision-makers?*
2. *statements of broad curriculum policies?*
3. *qualifications and performance of curriculum developers?*
4. *qualifications and performance of school administrators?*
5. *qualifications and performance of teachers?*
6. *qualifications and performance of students?*
7. *what is taught (information, skills, and attitudes)?*
8. *teaching strategies (group or individual, laboratory or lecture, etc.)?*

9. teachers materials (curriculum guides, syllabi, bibliographies, etc.)?
10. student materials (textbooks, films, etc.)?
11. total learning experience?
12. degree of relationship between curriculum planning and instruction?

Responses to IX A. 1. Political educational decision-making - Most checks on irresponsible decision-making at this level are either supplied by counter-political activity of opposition parties, the Education Ministries or National Boards of Education, trade and teachers' unions, or the electorate in general. Some respondents believe that civil servants, social scientists, special commissions and avant garde evaluators may perform a role here, as does public discussion. One U.S. respondent commented that "There is almost no evaluation of decision procedures, and it is at this level that the worst errors are made." He apparently felt that this statement implied also to all other levels of decision-process.

2. *Statements of broad curriculum policies* - Virtually the same checks and balances are applied also at this level, where any evaluation can be said to exist. School "experts", inspectors, and professional educator groups and unions have greater input concerning these statements, however, In the U.S.A., accrediting associations and education departments of the states may evaluate the policy decisions, and in the U.K., the Schools Council, Local Educational Authorities, head teachers and universities may offer critiques of stated policies and express desire for changes as are deemed relevant. One English respondent suggested that "broad statements" are usually made only by the government or by the press.

3. *Qualifications and performance of curriculum developers* - A sizeable group of respondents say that "no one" evaluates these specialists. Others report that National Boards, Councils, and teacher organizations as well as school administrators evaluate curriculum developers. Parents and

students are said ultimately to evaluate performance of such officials. A respondent from the U.K. thinks they are primarily evaluated by other developers and by funding agencies. In the U.S.A., although states set certification requirements for school curriculum specialists, only local boards of education and school district authorities are likely to serve as evaluators of curriculum developers in any strict sense.

4. *Qualifications and performance of school administrators* - Depending on the degree of centralization of authority, National Boards, School Inspectors, Trustees, County or local school boards may evaluate school administrators. In the U.S.A., qualifications must meet state certification standards. In a less formal sense, teachers, parents, students and other local citizens evaluate administrator performance.

5. *Qualifications and performance of teachers* - National Boards, teacher training institutes and, in the U.S.A., state certification requirements set initial standards. School inspectors or Local Educational Authorities, County Boards of Education, or local school administrators are generally involved in formal evaluations. Again other teachers, students, parents and other community residents often engage in less formal evaluations.

6. *Qualifications and performance of students* - Principals, teachers, examination committees, inspectors, and ultimately, potential employers evaluate student performance. In the U.S.A., specialist teachers have a particular role in the assessment of individual needs and differences. National testing services are regularly used, but teacher evaluations are usually given most weight.

7. *What is taught* - National Boards, school inspectors, principals, district administrators all have a hand in evaluating what skills, knowledge

and attitudes are taught. But teachers and students, most intimately involved in the day to day learning activities, have a crucial evaluative role. Other groups are, of course, interested and sometimes critical.

8. *Teaching strategies* - Essentially the same groups are involved in strategy evaluation as are engaged in content evaluation (what is taught). However, researchers may be utilized in this area of evaluation more frequently -- to compare effectiveness of different strategies or to check "before" and "after" progress of students introduced to a new strategy.

9. *Teacher materials* - National agencies, expert consultants, inspectors, administrators, local boards, teachers, students and parents all evaluate school materials. What this question basically ignores is how such materials are selected and how and when decisions are made to discontinue use of some materials and to install others.

10. *Student materials* - The responses to this question are nearly identical with answers to 9 (above).

11. *Total learning experience* - The most significant comment to be made is that not one out of all respondents suggested that a student might participate in evaluating his own total learning experience. Most answers were related to the "official" side of evaluation, though guidance counselors were named as representing a non-academic aspect of such evaluation.

12. *Degree of relationship between curriculum planning and instruction* - Some respondents suggest that development teams are primarily concerned with evaluation in this area, and some say that teachers are themselves the best evaluators of the matter. The frequency with which inspectors and National Boards are named indicates that instruction is rarely perceived as an autonomous, in-class activity which may or may not be "curricular" in the syllabus

sense.

In general, responses to the twelve parts of this question were rather routinized and disappointing. The flaw lies apparently in the form of the questioning, which undoubtedly seemed repetitive and dull. One inference that can be made from the responses, however, is rather disquieting: decisions which may be crucial at different levels of school operation may not in actual practice by subject to *any* kind of evaluative review, even when there are highly specified lines of authority. Another inference is that students -- whose lives are most certainly deeply affected by the educational process -- have little informal and almost no formal power of review, if the answers in this questionnaire are any indication.

Question IX B. To what extent are external evaluators employed in specific change processes? That, is how often are projects evaluated by persons who come from outside a given educational setting and who have no vested interest in either a particular change process or in the preservation of the status quo?

Responses to IX B. Among all respondents, eighteen report that external evaluators are seldom utilized, and six say that such persons are never employed. Four indicate that such outside resources are sought quite often. Among those respondents who did not reply in terms of frequency, it is a common feeling that outside evaluators work primarily on special projects, if at all. A Swedish respondent cites the "temporary inspections" which are conducted by representatives of industry and administration, and a U.S. respondent mentions the outside evaluation of "accreditors". Even among U.S.A. school personnel, there seem to be two diametrically opposed views: (1) outside evaluators are helpful because they have no vested interest in preserving the status quo, or (2) "The opinions of disinterested and external evaluators are precisely that -- disinterested and external" --

and therefore presumably not relevant to the local need.

Question IX C. To what extent are field trials and preliminary evaluations made before new curriculum materials and practices are recommended for adoption.

Responses to IX C. Several persons left this response blank, two have replied "always", nine say "most of the time" and a majority say "seldom." Three persons state that it is not possible to generalize, since not all changes require field trial. Some respondents feel that preliminary field trials are not made frequently enough. One respondent states that trials and evaluations are concurrent with implementation.

Question IX D. Is your evaluation summative or formative, and at what levels? Please check (✓).

	Summative	*Formative*
1. *Basic Values*	_____	_____
2. *Defining Objectives*	_____	_____
3. *Assessing Capabilities*	_____	_____
4. *Selecting Content*	_____	_____
5. *Teaching and Learning Activities and environments*	_____	_____
6. *Implementation*	_____	_____
7. *Developing and Selecting Instructional Materials*	_____	_____

Responses to IX D. On this question, there was wide diversity among respondents as to whether evaluation was summative or formative at each step of curriculum development. In some instances, such as assessing capabilities, respondents checked both categories of evaluation. Most of the respondents also agree that the defining of objectives as well as the development and selection of materials are at least summative in nature. Implementation, they feel, is largely a formative operation.

Overall, it is impossible to find any clear evidence that one country differs markedly from another in the way it regards formative and summative

evaluation.

Category X : Personal Observations

The strategy involved in the definition questions in this category was to allow respondents to answer all previous questions using characteristic assumptions concerning the nature of curriculum and curriculum planning and only then to determine what these assumptions might be and how they might vary from country to country.

The second part asked for expressions of futuristic thinking in regard to education, and the final part allowed the respondents to initiate themes of their own.

Question X A. There has been marked confusion concerning the difference between "curriculum" and "instruction." Please define each term below according to your own understanding of it:

Curriculum: *Instruction:*

Responses to X A. "Curriculum" and "instruction" do not mean the same things to everyone. This comes as no surprise to the investigators in this study and probably is also no surprise to the respondents, all of whom are highly sophisticated in educational theory and practice. Differing perceptions do, however, color the results of the survey. For example, "curriculum" as written outlines or "courses of study" is much more highly abstracted from actual learning events as they take place in the classroom, and if a respondent has the "courses of study" perception of curriculum, many of the detailed questions (under the evaluation section particularly) must necessarily seem irrelevant and repetitious to him.

Using the same example: if a respondent has the perception that curriculum is "the total learning experience in the school, including the 'hidden' curriculum (values, relationships, out-of-school-time activities, etc.)"

this respondent will view evaluation as a much broader activity, and most likely, as an on-going process which is not especially tied to the examination performance of the student nor to the adherence of the teacher to prescribed "courses of study."

The views above represent two extremes concerning the definition of curriculum; most respondents include elements of both positions.

The person who submitted the very broad definitions quoted here also submitted two others -- one representing curriculum as the schedule or "time-table," the allocation of teaching time among various content areas; and the other representing curriculum as "what is actually taught within or across subject areas."

The point is not that there should be different perceptions of what curriculum is, but that responses to the quesionnaire inevitably reflect these perceptions. Another example of this is the attitude toward research. If curriculum means "courses of study," then research will largely take the form of student performance evaluation, but if it is used in a broader sense, then research may be concerned with teacher and student self-assessments, student attitudes toward various administrative styles, community response to curriculum changes, evaluation of the curriculum change process itself, or any number of other research designs which explore the proposed learning plans in the contexts of their development and implementation, in addition to assessing the achievement profiles of students.

"Instruction" is similarly subject to diverse perceptions, though for all respondents it is clearly associated with implementation. Some object to the use of the term "instruction" except for highly specific, non-generalizing learning sequences; everything else would be termed "education."

In this view, "instruction" becomes merely "a restricted form of passing information in an efficient, if dull way, from a teacher to a group of students, with very limited goals in educational terms." In this frame of reference, instruction must seem to have little to do with curriculum, however curriculum is defined.

Several respondents prefer not to separate curriculum as written document from curriculum as process, i.e., instruction. One person described curriculum as "a system of sequentialized learning experiences," and instruction as "a mutual and interactive process involving the student and teacher in a process of experiential growth both related to and free of the specific curriculum."

In the view of survey distributors and researchers, both "the learning system" and the "process of experiential growth" are the legitimate concern of curriculum developers, and the design of the questionnaire has reflected this perspective. Such a perspective has made responding especially difficult for some, as they have indicated -- for not only have they been asked to translate from one language to another, they have been asked also to translate from one frame of reference to another.

Question X B. When you look ahead toward educational theory and practice in the 1980's what changes do you envision and how can curriculum developers prepare to meet these changes?

Responses to X B. This question, allowing as it does for a wide range of ideas, has produced particularly interesting responses, a large group of which are quoted anonymously below:

> Education changes very slowly. In the next 10 years there will be new names for old practices but little change. There will be flexibility in amount of compulsory education, fights between vocational and broad education, arguments about when, how and why to test students

and elitism versus total equality. The arguments will remain unresolved and curriculum developers will ignore them.

The 1980's will see a change in the curriculum of the world in which children will have to live and work. It is the world of work and vocational preparations which will have to figure more largely in the plans of curriculum developers.

An increasing concentration on consolidation of CD [curriculum development] activity, rather than an indefinite extension of the numbers of new projects [is envisioned]. Teachers can be adversely affected by a proliferation of confusing choices.

Treating teachers as equal partners in co-operative ventures rather than using them as experts' guinea pigs [is anticipated].

I see an increasing pressure, both within nations and internationally to devise common-core curricula. At the same time there is increasing recognition of the nation-specific characteristics of curricula and the problems associated with uncritical cultural triangles of curricula...These are conflicting tendencies and their resolution seems to me to be the major challenge ahead. In specific terms, issues are raised about the ability to devise curricula which are more content-free and learning-style free that at present, whilst retaining common objectives, expressed in terms of skills.

We cannot progress further in refining the effectiveness of education as a means to improve society unless we develop effective curriculum planning processes at the local level. The longer we wait to move on this priority the more we extend this ineffectiveness of education.

Education must become part of the Liberal Arts and Sciences. It cannot remain outside LAS and achieve genuine quality.

There will be a greater degree of student and community input in curriculum planning and development. The learner will be given greater degrees of responsibility in the learning experience he/she is exposed to. A greater degree of how to help people retrain as they leave their various occupations to change to another will mean greater flexibility in a curriculum.

The most important issue for curriculum planners, educational theorists and practitioners is the need for cultural pluralism in the curriculum. As our world becomes increasingly more populated and the resources for energy and food diminish, the need for a basis for common understanding in the area of human and social values becomes essential. We need to allow for cultural differences while at the same pursuing fundamental agreement on human values and social concerns.

[We need to] (1) Broaden participation of more academic disciplines (i.e., sociology, anthropology, etc.), and (2) Curriculum developers should know more about the realities of teaching-not prescribe "set" ways but offer optional ways to fit different styles of teaching and learning.

Society is going to demand increasing, sophisticated forms of accountability. The largely public relations shams of the 1970's will no longer satisfy.

A revolution in educational financing will greatly broaden the base of taxation for education and broaden the practical demands for accountability.

I feel that most leading theorists are bedeviled by a lack of role clarity. Is education to be tracturi or dynamic? Is the function maintenance of existing systems, or inquiry and construction of new systems? From where does the moderate come? How can we process input-output in a reasonable fashion? Can we develop a differentiated staff in curriculum work? These are significant questions that must be addressed before curriculum can be developed into a viable force in American education.

[There is need for] better correlation of skill, content, and process; of theory and practice; of inductive and deductive. Curriculum developers must provide the supports which will make such an educational philosophy viable and widely usable.

I try to seek procedures to make curriculum and instruction more congruent and to prevent education from rigidity. This demands open curricula for the field of social studies and science and more structured curricula for the skills. Greater attention has to be paid to individual differences...To prevent the schools from a host of curricula it is necessary that a coordinating institute will control and disseminate the new curricula, [with the] condition that there will be offerings of curricula from essentially different viewpoints (academic, controversial, communications, experience curricula).

[What is needed is:]

1. A clear division between the tasks of formal and informal education;
2. Thinking about the basic content of the formal educational system from kindergarten to university;
3. Thinking about the best methods of dissemination and implementation of new developments;
4. Improvement of curriculum research and evaluation of educational developments;
5. Improvement of training of teachers, researchers and educational managers;
6. The establishment of an OECD/UNESCO Centre for developed

countries that studies and coordinates curriculum problems on different levels in order to assist the national states; [and]

7. What I have written under 6 has also to be done for [developing] countries.

[I envision] a reduction in the zeal of educators and money lenders to reform and improve -- hopefully reflecting and encouraging a social and educational attitude of contentment with stability; [also] long, hard and uninspiring efforts to equalize educational opportunities for babies born in very different environments -- Less rhetoric; more quiet action.

[I foresee] the need for a personalized education, the growing diversification of jobs, the professional changing, the need to underline the instrumental knowledge (language, methods and fundamental concepts), the need to educate for a "freer" life simultaneously coupled with a high level of social responsibility, the need for creativity to respond to the demands of a changing world and to look towards the future, and the need to underline moral values.

[What is needed is] continuous research and close relations with, and feedback from, the field of work (industry, services, etc.) and schools.

It is difficult to foresee the years ahead. In our country, I think we will only have small changes during the first few years... Later on, I think we have to concentrate on transition from school to work...Schools will have to be geared more to the world of work, to the cultural life, to values that give meaning to human life. [We will need to] strengthen school-community relations, and of school-society at national and international levels as well as at the local level. That means languages and social studies will become more important, e.g., *communication* and *understanding*. [There is need for] training and education for cultural pluralism, solidarity and conflict solving. But that is not enough. Learning of basic skills will be more important, as well as updating of skills. The subject matter, the content has to be selected so that it gives meaning to the students' work here and now as well as preparing them for future life. It has to give opportunity to development of skills and strengths, supporting the affective aspects of education. Knowledge, technology are enough; values have to be included.

Technology and education will use more information theory, automation and self-adapted machinery; and from the public a better, more open attitude toward change. [There will be] more realistic and less ideological [emphasis and] all generations (from newborn babies to n^{th} age) will be involved. Knowledge will be less important than the procedures to acquire knowledge. [There will be] stress upon human communication and social integration. Around 1990 [I anticipate] a

better use of that computer (the brain) and around 2000, the soul comes into the picture.

More decisions should be possible on the local level, [with] involvement of pupils in planning and decision making. [There should be more contacts with and openness to the local community and the working life, and preparation [made for this] through public debate, trials and experiments.

Educational theory will move away from the indecisive tenure of psychology and be more of social theory. Curriculum developers have to be trained accordingly. This means that they will have to take hold of the *whole process* of schooling.

[I foresee] increased student participation and responsibility, promotion of affective and creative elements in classroom work, decentralized decision-making with concomitant local variations in curriculum and syllabi, increased integration between society and school, and the effacement of the gap between youth and adult education. Trends like these, and other foreseeable changes, would seem to be international, and can only be coped with through the continuous work indicated in this document. Closer international cooperation in the international field will of necessity emerge.

Educational theory is going to be less fragmentary, and more concerned with the overall development of students. Orientation to the world-wide problems and their solution is going to be much more central in educational practice. The idea of education for international understanding, peace, and world-wide realization of human rights should be developed into concrete learning experience.

[There will be] greater practical relevance of pupil-oriented, teacher-friendly education.

I should like to see a reversal of the finiparous tendency which I detect in recent developments in educational studies and the recognition that there are certain foundation studies from which educational theory and practice are derived. I should like to see curriculum developers concerned with improving the relationship between theory and practice so that to an increasing degree they are interregulatory.

Being aware of the risks of prospective thinking, specially in education, a field so closely associated with fast changing social factors, I see (I would like to see?) education in the next decade, trying to harmonize the two prevailing trends, appearing today quite apart, almost contradictory; that is, the technological approach -- with emphasis on systematization and rationalization of the educational process, based on scientific principles -behavioral principles- and the

humanistic, "liberating", personalized approach, with emphasis on self-realization and self-fulfillment of the individual, liberation of disadvantaged and marginal groups, and the affective side of pupils.

In order to be prepared to respond adequately to the requirements of a new curriculum concept, the curriculum developers will have to be trained accordingly, specially trying to develop new attitudes toward the non-intellectual aspects of education while maintaining a high level of technical skills.

Question X C. (Other Comments).

By the time questionnaire respondents reached this question, a majority preferred to offer no further comments. As one said, "Now we are completely exhausted!"

Comments which were made related most often to the form of the questionnaire. Some found that it did not match the descriptive categories which were customarily used in their own countries. One respondent suggested that it might be useful if an international agency were asked "to auspice studies for unifying terminology in the field of curriculum." Another said that the form of the questionnaire was "not helpful for those who do not have an expert knowledge of English, and in some cases even for those who had!" One found the generality of the issues overwhelming, and thought a better design would not have mixed open-ended and short-answer types of questions.

One respondent made a parting comment that quality controls in curriculum development are needed, and that there can be such a thing as "too much pluralism." Others called for sensitive, dedicated, creative and especially well educated people to work in the curriculum area.

One person raised legitimate questions about the precision of the survey instrument and, as a result, the value of the evidence which would be collected. In contrast, another stated that "This project is fascinating," and offered to submit further thinking on the issues raised if this was needed

or desired.

Summary

This study makes no pretension, on the basis of the tabulated questionnaires and on the constructed responses included from several additional late returns, that complete characterizations of thinking and action concerning curriculum change structures and processes in nations surveyed has emerged. It is certain that, in research of this sort, some minor distortion may arise in the course of translations from researchers to respondents and back to researchers again. Nevertheless, the data collected has been read carefully and interpreted as rigorously as possible, so that the results submitted here seem to justify the following conclusions.

Nations which have historically developed and maintained highly centralized educational systems are seeking ways to decentralize decision-making concerning curriculum to regional and local levels, so that national responsibilities would be largely confined to issues of standardization, quality control, and funding. Local control would be strongest in matters of adaptation of standard curricula to local situations, and to responsibilities for furnishing such data and work activities as are likely to keep national school authorities continually updated on local needs and resources.

On the other hand, nations which have historically developed and maintained highly decentralized systems are willing to consider centralizing some functions which have to do with standardization of educational outcomes and funding but not at the sacrifice of local control. The most difficult issues in the decentralization-centralization arguments are those involving the resolution of specifically which aspects of schooling are most successfully dealt with at each level of operation. But there is no question at

all that local communities are asking for and receiving (very gradually in some nations) greater powers of decision over what goes on in their schools.

The movement toward comprehensive schools has caused some citizens in countries affected to question the quality of education resulting. Educators themselves are concerned with "quality" on a much broader scale, for scholarship alone is not viewed as successfully preparing students for adult life. Most curriculum planners are deeply concerned to provide such learning opportunities as are likely to extend vocational and career choices for school age citizens. They are almost equally concerned to provide further and higher education for adults. Equalization of opportunity for citizens at all socio-economic and age levels is a significant trend in all nations, though it is far more advanced at this hour in some countries than in others.

Students are rarely involved in planning or evaluating their own learning experiences, even in nations where this involvement is perceived to be a valid goal. Teachers also have limited decision-making powers, except in the United States and England, and even in these nations, teacher decision-making is perceived to be largely confined to individual classrooms. In a few nations (e.g., Sweden) teachers may serve as advisors to decision-makers. Citizens outside of school personnel have limited roles in decision-making, though they elect local school boards in the U.S.A. and may in some nations help to specify work-related educational practices (i.e., various educational systems may use industrialists in advisory roles, usually at top planning levels.)

Though some countries are still counting on needed educational reform through national legislation -- largely to enact supportive equal opportunity and power decentralization measures -- a majority have the needed laws already

in place and the problem has become one of implementation.

Most educational funding is "from the top down," from national governments. The U.S.A. is a notable exception, with its bases of local taxation to provide at least half of the support for local schools. U.S. respondents point out that this means that schools in some localities are much more adequately funded than schools in other localities, a problem which needs correcting. Sweden also distributes funding responsibilities between national sources and local municipalities.

Though national expenditures for education are fairly high, expenditures set aside for curriculum reform efforts are generally estimated to be rather low. Most development projects involve a combination of national, regional and local resources. Successive revisions are not substantially provided for, except where the reform is on a national scale (as in Sweden), and even in such cases, major review and revision is attached to specified time intervals which are five to ten years apart. There seem to be varying perceptions as to whether reform is proceeding too rapidly or too slowly. Whatever the case, there is always a time lag between planning and implementation except where action-research methodologies are used (as in some English and U.S. projects).

Even the best laid plans turn out to be extremely difficult to implement unless the support of local citizens, teachers, and even students has been won. There are disagreements as to how this support is insured, but greater participation in decision-making by these local groups seems to be one important key. Some respondents suggest that such participation must not only be planned for, but carefully timed. At whatever levels the planning occurs, it is in single schools or single classrooms that the success of

the planning is tested.

Well-funded curriculum projects may provide pay, or release time, or other incentives to encourage teacher participation. In general, teachers (as well as many administrators) are not felt to be sufficiently trained in pre-service experience and must be given additional training to participate effectively in curriculum development work.

Research is either of the "action" type (occurring as an on-going part of day-to-day planning and implementation of new curricula) or of the product type (assessing the final outcomes of change). The first type is apparently fairly rare, and the latter type is divided into (1) basic or fundamental research aspects and (2) aspects of application. Both basic and applied research are considered insufficiently linked to the process of curriculum development. There is comparatively little use of "outside" researchers who have been unrelated to the development phase of curriculum change projects. Dissemination of new ideas and materials is closely linked with implementation problems; well-defined plans for dissemination are too often conspicuous by their absence.

Most of the respondents already have had some unofficial interactions with educators from other nations or have participated in international conferences concerning mutual curriculum problems. Nearly all of them are willing to entertain ideas about standardizing skill development processes from nation to nation, but many feel variations in content of education must remain wide and culturally determined.

Chapter III

THE CASE OF SWEDEN

Sweden is a nation of about 8 million people, with an educational system serving approximately 1 and 1/2 million elementary and secondary school students and employing more than 85,000 teachers. The school system qualifies as "national" in scope because major policy and operational decisions are made at the national level. Parliament plays a significant role in policy-making for schools.

By international standards, Swedish ministries are small, serving as secretaries to the ministers who are in turn accountable to Parliament for setting in motion political and economic policies which the lawmakers have specified. As secretariat for the Royal Commissions, they are responsible for both short term and long range educational planning.

Independent boards do much of the work which is often done by ministries in most European countries. The National Board of Education is responsible for elementary and secondary schools and the Office of the Chancellor of the Universities is responsible for higher education. These boards are the administrative agencies which implement educational legislation.

Local municipalities, more than 900 in number, are elected to administer school law at the local level. The trend is for the national authorities to grant municipalities more power and to consolidate smaller units so as to reduce the total number of these. Costs of education are divided : 60 percent from the state and 40 percent from the municipality. Powers are also delegated to county education boards, which are decentralized arms of the central government.

From time to time, *ad hoc* Royal Commissions are established to study existing policies and make recommendations for major new policies. In some cases these Commissions are strongly political, as in the case of the 1946 Commission which laid the groundwork for comprehensive school reform. On the other occasions such commissions may be composed primarily of educational experts, although public representatives are always included.

Although political and social consensus has not been easy to achieve and while strong differences of opinion still make themselves felt, the Swedish approach to educational reform is based on a conscious commitment to social equality and is articulated by means of clearly stated objectives and proposed ways to achieve those objectives.

Stuart Maclure, in a paper prepared for use at a workshop of the Center for Educational Research and Innovation, characterizes the Swedish reform movement as influenced primarily by (1) national political commitment, (2) centralized educational administration, and (3) well qualified school personnel who enjoy respect and prestige in their communities.

Maclure cites the 1946 Commission as having cut through pedagogical discussions and required school policies based on social considerations -- particularly on those social considerations devoted to social equality and cooperation and to development of individual talent. In other words, school interests as such were subordinated to broader social interests in the Commission's recommendations. Objectives of the reform "are based on political conviction, not research," (Maclure, 1969, p.5) and owe much to the political stability of the central government which in turn is clearly supported by the populace.

Strong central control of school reform and innovation in its initial stages has made it possible for Sweden to progress rapidly in changing schools

throughout the nation. But another aspect of the overall plan is gradual decentralization. Before reform, secondary schools were not administered by local authorities, but all comprehensive and secondary schools as well as elementary schools are now under local jurisdiction. In addition, the 24 administrative county units which are decentralized branches of national authority, are responsible for appointment of teachers and for in-service training.

Swedish centralism has demanded that internal school management practices (such as heterogenous groupings) be planned alongside of more general structural and organizational changes. These matters have not been left to local initiative and have therefore not always met with local (i.e., teacher or local administrator) approval.

Sweden does not suffer from a scarcity of qualified teachers, but reform has placed them in new roles and relationships and increased the need for additional in-service training. Teachers receive at least two and one half years of pre-service training at colleges of education to teach in the first six grades of the comprehensive school (ages 7 to 13). Subject specialists in grades beyond the sixth have earned university degrees and have had an additional year of teacher training. Senior posts in secondary schools are held either by persons who have three additional years of college beyond their baccalaureate degrees or by those who have an additional degree. Class sizes are generally low, so that the teacher to pupil ratio is favorable.

It has been stated that the basic strategy of Swedish educational innovation requires

1. Clear political decisions on the goals of the educational

system and the objectives to be achieved in each type of school. These major political decisions have, in the main, been taken on the advice of Royal Commissions on the basis of which the Minister of Education formulates legislation for Parliament.

2. The refinement of these general goals and objectives into a working curriculum and study plan for each type of school.

3. A programme of in-service training for teachers to assist the introduction of new curricula and teaching methods.

4. A programme of Research and Development to support the policies of reform and innovation.

5. A system of continual revision by which the curriculum and study plan for each type of school is constantly assessed in terms of its own objectives. (Maclure, 1969, p.9)

It is also a matter of political strategy that schooling has been made both free and compulsory through the ninth year. No tuition charges are levied against students or their parents while these children are attending elementary and secondary schools. Books and materials are free to students for as many years as they are required to attend schools at the elementary-school level, and they are also free in some of the more affluent secondary schools. The nine years schooling mandated by law encompass the age range from seven to sixteen. A youth may leave school when he reaches the age of sixteen only if he has satisfied the nine-year requirement.

Financing the Schools

The estimated public expenditure for education in Sweden from 1965 through 1973 is shown in Table 1, in Swedish krona. The table also shows the distribution of funds by level of education. In the eight year span covered by these statistics, the total national expenditure for education has more than tripled, showing not only the effects of normal inflation but also the determined national commitment to the scheduled reforms.

Table 1: Estimated Public Expenditure on Education, in Sweden (in thousands)

year	total Swedish krona	first level[1]	second level[2]	third level	other types of education[3]	expenditures not allocated by level
1965	5,240000	40.0	22.9	9.2	9.2	18.7
1970	12,343500	37.2	14.5	12.7	4.9	30.8
1971	14,874800	35.5	13.8	12.8	5.2	32.7
1973	16,468100	37.5	13.1	12.7	5.1	31.6

[1] includes preschool and primary

[2] includes general, teacher training

[3] includes special education, adult education and similar institutions

Source: UNESCO Statistical Yearbook, UNESCO Paris, 1976, p. 413.

Total current and capital expenditure of public funds for education is shown in Table 2. In this table, public expenditure for education is expressed also as percentage of the gross national product (GNP) at current market prices, and as a percent of total public expenditures.

Table 2: Total Public and Current Expenditure, Capital Expenditure (thousands); Percentage of GNP and %, all Public Expenditure: Sweden

year	total expenditure (Swedish krona)	Current expenditure amount	as % of total	Capital expenditure	Total as % of GNP	Total as % of all public expenditure
1965	6,620000	5,240000	79.2	1,380000	6.2	14.5*
1970	13,150000	10,785000	82.0	2,365000	7.7	12.1*
1972	15,695800	13,667100	87.1	2,028700	7.9	14.9
1973	16,888700	14,874800	88.1	2,013900	7.7	14.1

*Expenditure of the Central government only

Source: UNESCO Statistical Yearbook UNESCO Paris, 1976, p. 388.

Enrollment

There are over 1.3 million children attending pre-primary, first level (primary) and second level (secondary schools). Table 3 shows the number of pupils in the above respective levels: 141,043 for the 1972 school year, 671,651 for the first level and 528,765 for the second level for the 1973 school year. The number of instructional staff are 17,239 for pre-primary, 39,833 primary and 55,826 for the secondary school. As shown in Table 3, the number of students enrolled in the third level university and teacher training is 131,614 for the 1973 school year.

Table 3: Number of Pupils and Teaching Staff on the Three Levels of Education in Sweden

Year		No. of pupils	No. of teaching staff	Pupil/teacher ratio
Pre-primary education	1965	72445	2482	
	1971	113400	10100	
	1972	141043	17239	
First level	1965	607375	30000	1:20
	1970	615331	30800	1:20
	1972	653055	38000	1:17
	1973	671651	39833	1:17
Second level*	1965	630268	52545	1:12
	1970	646117	54970	1:14
	1972	554295	53600	1:12
	1973	528765	55826	1: 9
Third level	1965	77752	not available	
	1970	141218	"	
	1972	133168	"	
	1973	131614	"	

*In 1972 and 1973, following the structural changes in the educational system, data on general education include certain schools which were previously part of other second level education of a vocational or technical nature. The remaining vocational schools are classified as education at the third level.

Source: UNESCO Statistical Yearbook, UNESCO, 1976, pp. 131, 149, 208 and 260.

The Schools

As part of the reform, new laws have been passed creating new schools and new curricula for these schools. Some of these changes are still in experimental stages. Even though the Swedish division of grade levels does not follow exactly the pattern which most readily comes to mind when "primary" and "secondary" schools are considered, these designations are retained here for purposes of explanation and comparison.

Primary Schools

Even during the difficult years of the Second World War, Sweden's Committee of Inquiry, a body of experts called together and chaired by the Minister of Education in 1940, was at work on the problem of improving the schools and making them yield more successfully to the developing society's comprehensive educational needs. Though the Committee was not itself a political entity, it was consciously engaged in investigative work which it expected to turn over to a political commission which would be responsible for more direct reform activities.

The 1946 Commission was therefore appointed even before the conclusion of the work of the Committee of Inquiry, so that continuity of investigation and planning was assured.

The 1946 Commission proposed a nine-year comprehensive school that would replace the primary school, the General and Practical School, the Intermediate School, and the Girl's School. In 1950, Parliament authorized this merger, and the developmental work for several experimental nine-year schools began. Outcomes of experience with these schools were assessed and, by 1961, the study group was able to report its findings as positive and

encouraging. In 1962 Parliament called for nation-wide conversion to the new nine-year comprehensive and compulsory school recommended as a result of the experimental school study, and this change-over was scheduled to be completed by the 1972-73 school year.

Between the years 1946 and 1962 experimental efforts stimulated several curriculum revisions for these new schools that ultimately led to the 1969 version. Though all of the reforms mandated posed a number of problems for implementation, the most difficult hurdle was the need to satisfy in one school all the demands for education previously satisfied in several types of schools. The problem was not only organizational, but also curricular : how to combine into a single curricular plan the general education of the old six-year primary school, the special education of the specialized school, and the first three years of the former secondary school.

Probably the most significant changes in the comprehensive schools' curriculum since their inception have been made in the last three years, and these changes have resulted from attempts to find balance between general and social education, and technical, or specialized education; and between required subjects and elective subjects. It should be kept in mind that a principal aim for the comprehensive school is to play a more active part in shaping and influencing society at large. This aim is indicative of the concern that was felt throughout Sweden for a better relationship between the culture of the nation and the culture being transmitted via the schools, and the struggle to achieve this aim is reflected particularly in the attempts to settle upon an effective curriculum for the last three years of the comprehensive school.

The curriculum change-over was scheduled in stages, with implementation

in grades one, four and seven during 1970-71; in grades two, five and eight during the 1971-72 school year, and in grades three, six and nine the following year.

The comprehensive school is divided into three levels, junior, middle and senior, each running for three academic years, as shown in Figure 1, on the following page.

The first two levels (the first six years) are organized on a self-contained classroom basis, that is, one teacher teaches a class all of the various subjects assigned in the curriculum. While enrolled in the upper level, students attend school 35 hours per week, during which 29 to 30 hours are devoted to required subjects and the remainder to electives. Table 4 shows the distribution of hours by levels in comprehensive, compulsory schools.

Table 4: Structure of the Comprehensive School

Junior level	
Grades 1-3:	20-30 hpw English, 2 hpw in grade 3
Middle level	
Grades 4-6:	34-35 hpw English, 2 hpw in grade 4, 4 hpw in grades 5 and 6
Senior level	
Grades 7-9:	35 hpw, of which 29-30 hours for instruction jointly given to all students and 5-6 hours for electives and freely chosen work. English, 3 hpw in each grade

hpw = hours per week

Source: Educational Research and Development at the National Swedish Board of Education, 1976, p. 7

[Note: In the figure below, Kindergarten is included. Attendance at this level is voluntary, but municipalities must provide Kindergarten facilities.]

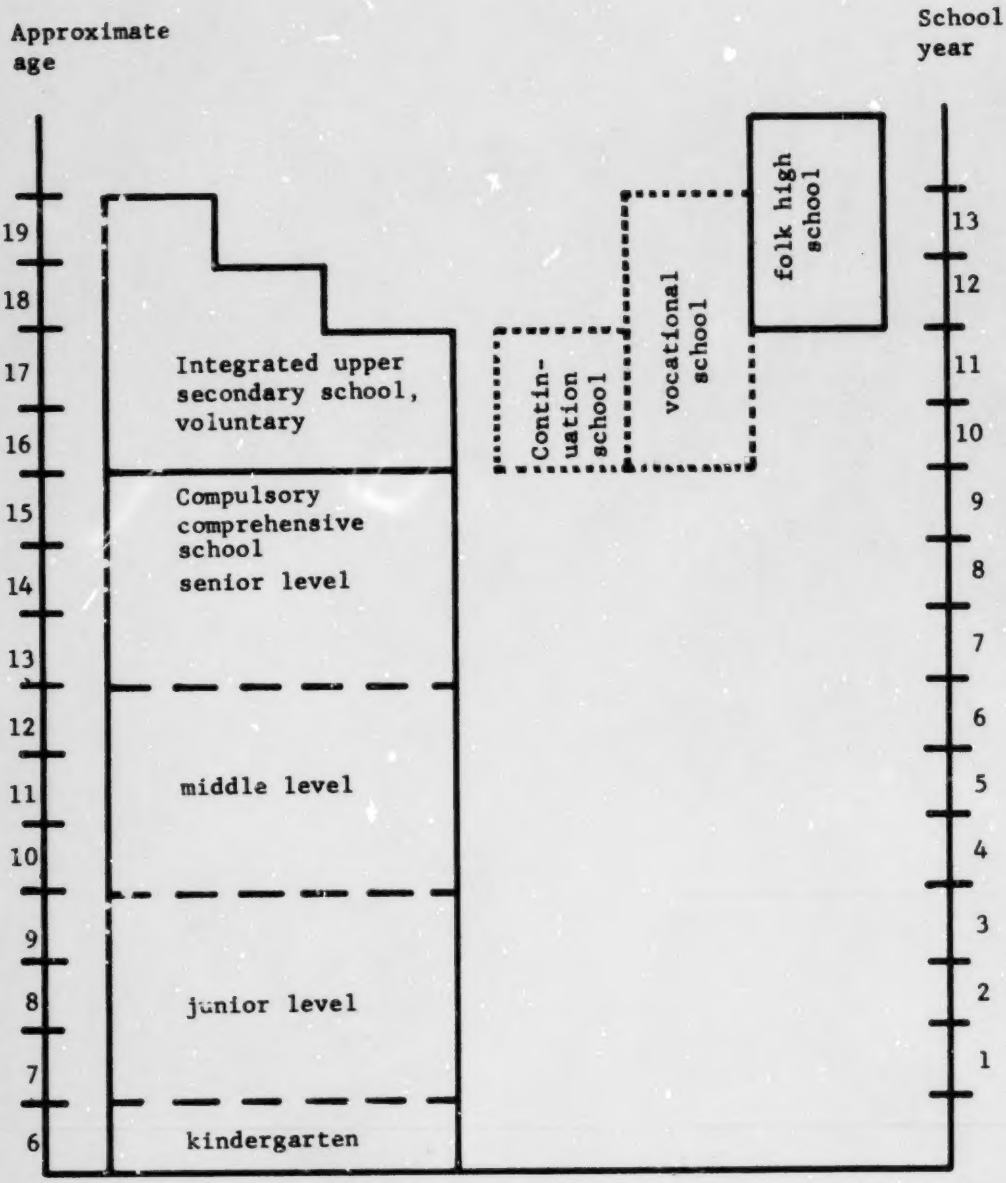

Figure 1 - The School System in Sweden

(Source: Educational Research and Development at the National Swedish Board of Education, 1976. p. 12)

In the Senior level, a departmentalized organization is used, and the teachers are trained for subject-specific teaching. Throughout the comprehensive school, pupils are grouped in classes heterogeneously in all subjects except mathematics, English, and the optional second foreign language (German or French), in which two courses of different levels of difficulty are offered.

Pupils begin in the new comprehensive school at age seven and they are normally finished with their studies in this school in nine years.

Three special features of the comprehensive school are particularly noteworthy. One is that in grade nine pupils spend three weeks of that year working at an occupation of their choice outside of the school. This work experience is a reflection of a great deal of interest in vocational and technical education in Sweden and a dedication to the principle that the educational program in schools must be tied to the work world outside of school. It also reflects a concern for job satisfaction as a social phenomenon, for the student who explores first-hand a given occupation is more likely to know whether he would like to pursue it further.

A second feature is that the study of English is required from grade three through grade nine in the comprehensive school. A third is that no examinations in the comprehensive school are determiners of the next step in a student's life along the educational ladder.

The marking system in the comprehensive school is actually a rank or merit designation on a scale from one through five, with five indicating highest merit. Such marks are given at the end of the spring term in grades three, six, and seven, and at the end of each term in grades eight and nine when subject specialization begins. During terms when such rankings are not officially made, teachers nevertheless keep parents informed of their

child's progress, usually in private conferences.

Organizationally, the comprehensive school is a municipal institution coming under the jurisdiction of the elected local school boards. Lower and middle levels are found in all municipalities, but upper levels are present only in communities warranting the level as measured by pupil load and costs.

As of 1971-72 a pupil who completes the comprehensive school either attends the new gymnasial school or enters the work force. He is no longer "sorted" into one of several different kinds of secondary schools.

Secondary Schools

In Figure 1, the new voluntary gymnasial school, or "integrated upper secondary school," is shown at the top of the diagram as the only institution of secondary education now available directly upon completion of the nine-year comprehensive school.

The old multi-ladder system of secondary schools which existed in Sweden immediately prior to the school year 1971-72 consisted of four parts: a regular academic gymnasium, a two-year continuation school, a vocational school of up to four years in length, and a folk high school. The continuation school and vocational school are shown as dotted areas on Figure 1, to indicate their recent discontinuance and absorption into the single new gymnasial school. The folk high school, also shown on the right of the diagram, is still provided to satisfy a variety of adult educational needs. Because it serves this specialized purpose, it is not available to students directly after attending the comprehensive primary school.

Changes in the Swedish secondary school system of education have been rather dramatic, as a result of combining all three of the immediate post-

primary options into one gymnasial school. Like the new comprehensive primary schools, the "integrated upper secondary" school system has been initiated gradually. The 1960 Gymnasium Commission proposed the integration of the old general gymnasium, the technical gymnasium, and the commercial gymnasium, and in 1964 Parliament acted in response to the proposal by establishing a unified gymnasium with five three-year lines: liberal arts, social services, economics, natural sciences, and technology. The technological line provided an additional year of training for those interested in engineering.

Beginning in 1966, the combined gymnasium, continuation school, and vocational school, as illustrated in Figure 1, constituted the secondary education pattern. Then in 1968, Parliament decreed that the new, fully integrated gymnasium (upper secondary school) was to be instituted during the school year 1971-72. This single system is what is referred to now in Sweden as "the gymnasieskola."

As a result of the integration legislation, only the folk high schools, which are essentially outside the jurisdiction of the national public education system (although receiving grant monies from the central government), still remain (at least at the moment) separate and distinct from the newly combined gymnasial schools.

The gymnasieskola is a comprehensive secondary school open to all students who have completed the nine-year compulsory school for basic education. The student may choose his own line of study and need not take entrance exams to enter that line. All lines which contain two-year courses in Swedish and English (and this is the case for most lines) provide free access to university studies. "Theoretical" and "practical" lines are under one roof, and students may cross lines to study in mixed classes.

All lines contain subjects of a general nature as well as vocational subject matter.

Though integration is far from complete (i.e., liberal arts, social sciences and natural science lines do not yet include sufficient vocational elements, and more technical subjects often do not include a broad theoretical base); nevertheless the separation between the theoretical and the applied is far less pronounced than formerly, as Table 5 indicates.

Table 5: Curriculum Lines for the New Gymnasieskolan (Upper Secondary Schools) in Sweden

Arts and social subjects	Economic and commercial subjects	Scientific and technical subjects
2-year:	2-year:	2-year:
consumer service and nursing nursing social* music (experimental)*	distribution and clerical economics*	clothing manufacturing building and construction electro-technical motor engineering agricultural food manufacturing processing techniques forestry woodwork workshop technical
3-year:	3-year:	3-year:
liberal arts* social sciences*	economics*	natural sciences*
4year:	4-year:	4-year:
none	none	technical
Special courses	Special courses	Special courses

*Mainly theoretical studies

Source: Educational Research and Development at the National Swedish Board of Education, 1976, p. 10.

Twenty-one lines or streams are currently offered, although few if any gymnasieskolan have all 22 lines. Faculties, pupil demand, and money available in the locality regulate the number of lines which can be offered in any one school. Some have as few as three or four lines, depending on school size and student characteristics.

Table 5 shows the distribution of lines over the three major "sectors" of study. It should be remembered that some subjects may be jointly taken by students enrolled in different lines. For example, arts-social studies and economics-commercial subjects tend to be coordinated quite frequently. Nursing lines are organized in whole or in part only by schools under the jurisdiction of county councils. Special courses in agriculture, forestry, and medical-nursing-social work are also organized.

Pupils in the new gymnasieskola are not grouped by ability, but are heteregeneously grouped within lines of curricula. In the 1960's, the final exams traditionally imposed at the end of the secondary school experience were gradually replaced by the same continuous assessment procedure used in the nine-year comprehensive school. These continuous "merit" assessments are made by means of nation-wide, standardized tests, spread out over the last two years of study. The tests are not designed to ascertain the proficiency of individual students, but to compare the norms among classes, to help teachers distribute their marks at the end of the term on a normal curve. (This system of grading "on the curve" is under discussion; a more absolute system of marking may result.)

Continuous assessment is designed to identify students who are having academic trouble so that they may be given additional help before the end of their course work. Parliament, doubtful about maintaining academic

standards, uses national inspectors to check on individual schools concerning teaching and grading practices.

Adult Education

Special comment should be made concerning Swedish attitudes toward adult education. The idea that education is desirable for people at any age appears to be well-accepted, and this idea is coupled with the assumption that individuals may wish to change their occupations as they move further into adulthood. Schools should facilitate rather than hinder these aspirations. For years, the folk high schools have been maintained for adults who have left schools prematurely or who for one reason or another wish to return to school studies. The folk high school will be continued at least temporarily. Attempts will be made in the new gymnasial school to allow school leavers to return to their studies regardless of the age of the individuals wishing to return. Universities are planning for new ways of admitting adults to the university who have entered the work force and who would like to continue advanced study. One reason for such planning is to promote more heterogenous student bodies. Another is to encourage more people to engage in vocations for which they are trained in the secondary school prior to seeking preparation for an occupation needing university education.

Post Secondary Education

As used in the context of this case study, post secondary means the higher education that builds upon the upper secondary school, i.e., teacher training, universities and colleges.

1. Teacher training

The training of classroom teachers and subject teachers is carried

on at the six major schools of education. Classroom teachers and in certain cases preschool teachers, as well, are trained at the nine minor colleges. They undergo a two and half year program which combines studies of subjects they will be expected to teach with pedagogies and methods. Three semesters of those years are spent on foundations of education, general methods, and laboratory procedures. One semester is then spent teaching in schools under supervision, and for the final semester, the student returns to professional seminars at the college of education.

Teachers for the upper three years of the comprehensive school and for the new gymnasial school attend the university for three years and receive a degree in their disciplines. They must study at least two subjects that they hope to teach. They also must attend a college of education for one semester of pedagogy and methods, and they must spend one semester in a practical teaching situation under supervision. A future design expectation is to interweave studies in the disciplines and the professional education work for teachers coordinately throughout the university years, instead of asking them to spend three years at the university and to terminate their teaching training with one separate year of professional study. There seems to be some resistance to this idea, and it may take some time before the plan is realized.

2. Universities and Colleges

The office of the Chancellor of the University (UKA) is the central administrative agency for the universities and certain colleges. General supervision of university and college activities in the UKA domain is exercised locally by the university council which also administers all resources.

Governance of the Schools

Sweden's maintainence of a national system of schools depends upon a political-organizational system which is capped by the Ministry of Education and Cultural Affairs. However, the practical affairs of running schools are assigned to the National Board of Education, to County boards and to local school boards. The Ministry is influential at the level of overall political and legal policy. It is supreme in decisions on administrative matters.

Figure 2 demonstrates the lines of authority in the administration of Swedish schools. The National Board of Education is shown as the executive agency of the government through mandate of the Ministry of Education and Cultural Affairs. The County boards of education and the local school boards work in unusually close cooperation with the National Board of Education. Folk high schools have their own boards at the local level, different from the local boards for municipal schools. Some folk schools are owned and run by the counties; others are owned and run by private organizations.

Curriculum and Curriculum Planning

With the authority for changing schools and altering curriculum in the hands of Parliament, and with the responsibility for school operations primarily vested in the National Board of Education (NBE), Sweden's major arena for curriculum planning, research and evaluation is the nation itself. The Swedish concept of "rolling reform", however, is a clear indication that ignorance or evasion of "grass roots" needs and interests will not be tolerated. Rolling reform is based on the recognition that curriculum specification is too important to be left to sporadic change efforts, and should instead become a continuously *engineered* process, relying on feedback

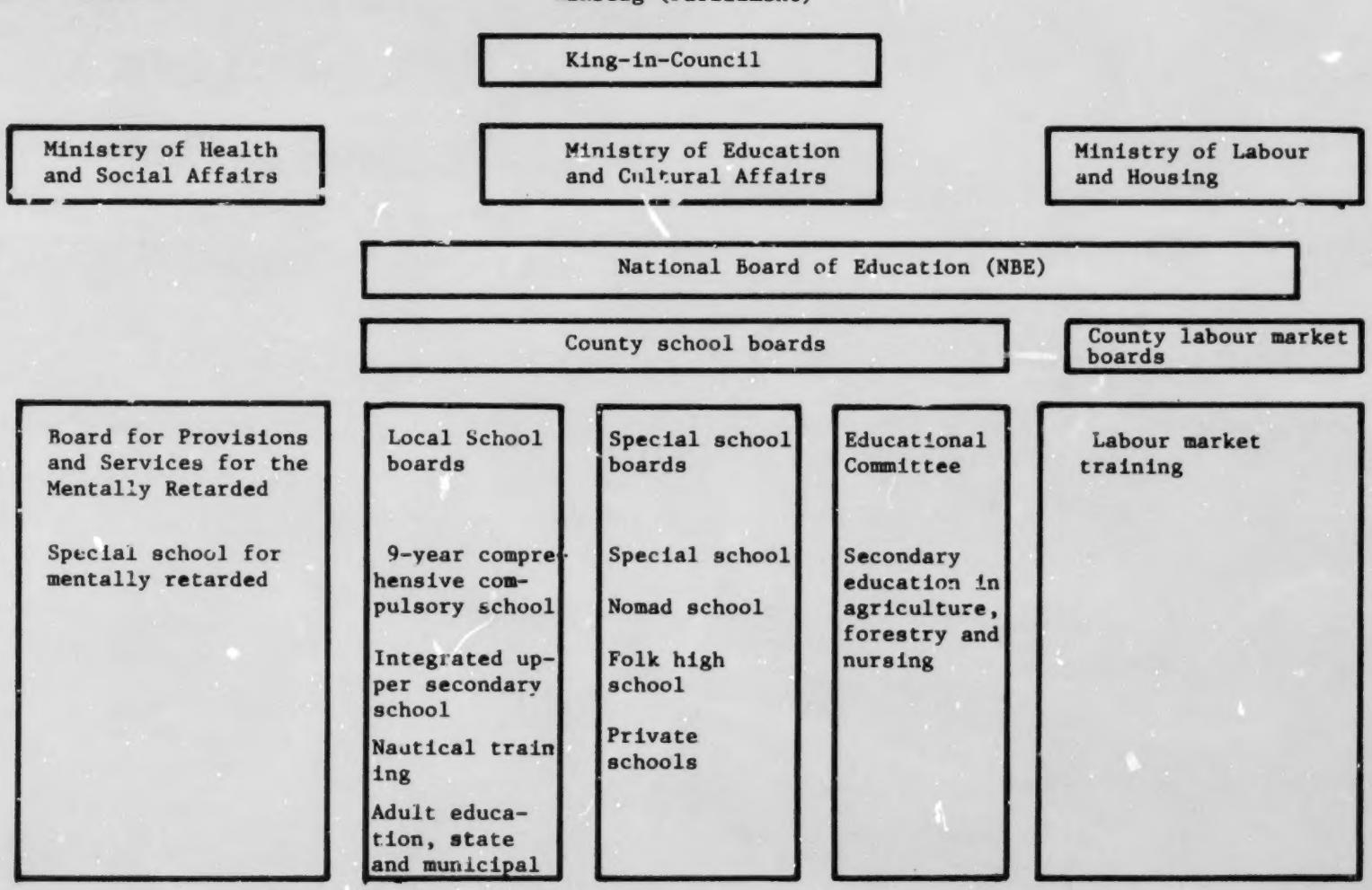

Figure 2: Forms of Governance for the Educational System in Sweden

(Source: Publication of the Swedish Ministry of Education and Cultural Affairs, July 1973)

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from implementation sites (the schools and County boards) for information about what further revisions are needed.

Whenever the nation is the arena for curriculum planning, the selection and involvement of people in the planning process is complicated. There are large numbers of potential agencies and personnel that might be involved, and this creates issues concerning representatives and competency of persons who are ultimately asked to do the work. In the case of Sweden, there is the additional complication of there being three national agencies that *could* initiate curriculum planning activity---The Ministry of Education and Cultural Affairs, Parliament, and the National Board of Education. Normally, however, the Ministry and Parliament act in concert, i.e., Parliament may ask the Minister of Education to come up with a needed curriculum proposal, or the Ministry may initiate a proposal for consideration by Parliament.

Although major curriculum change must unmistakably be initiated or approved by Parliament, the detail of curriculum planning work is left largely to the authority and direction of the National Board of Education (NBE). The organization of this agency is shown in Figure 3. Parliament may and does appoint commissions to generate new curriculum for schools, particularly for new schools that Parliament has been instrumental in creating. The new gymnasial school is a case in point. On the other hand the National Board of Education may create commissions to develop curricula for new or existing schools. For example, the commission to plan the organization of and the curriculum plan for nine-year comprehensive school was appointed by the National Board upon the request of Parliament. In many cases curriculum decisions made at very high levels are in sketched or

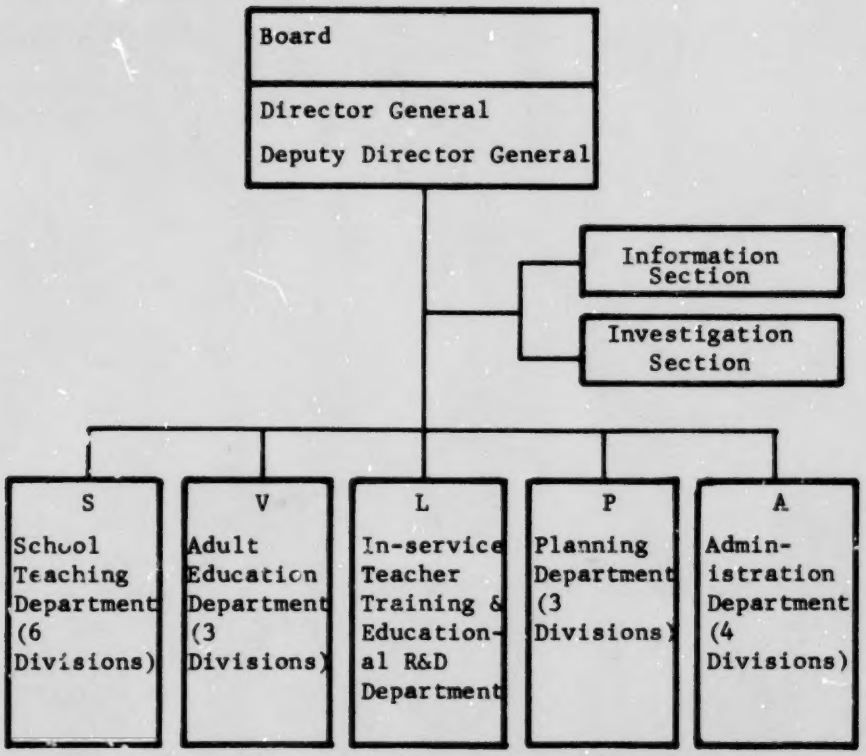

Figure 3: Organization of the National Board of Education

(Source: Educational Research and Development at the National Swedish Board of Education, 1976, p. 34)

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outline form. They may include only decisions about overall objectives, range of subjects, and weekly time schedules for the subject. The development of content into sequential organizations in harmony with the objectives and the organizational plan of the school in question are refinements that are developed later under the direct supervision of the National Board of Education. Similarly, improvements and revisions to curriculum are the responsibility of the NBE.

The composition of a high level commission reflects the social and political dedication of the Swedes to integrate education and the realities

of social life, and to democratically involve representatives of organized groups in their society in the decision-making process about public education. Commissions with large-scale curriculum assignments may be composed of representatives of the creating body (Parliament or National Board of Education), specialists in education, and representatives of major social groups such as labor, business, and professional organizations.

Although commissions may deliberate at great length about policy matters, they bring into being sub-units or committees to do much of the detail work. The committees usually are composed of teacher specialists from universities in their area of competency, and they are charged with responsibility to study the problem at hand and to draft a curriculum proposal. The commission, in turn, acts as an editorial board for the work of its various sub-units to insure that the original assignment has been fulfilled.

As a further step in the greater involvement of broad segments of national life, the preliminary draft of a major curriculum change is submitted to outside organizations for their comment and approval. Among the organizations are: national labor groups, business organizations, professional organizations outside of education, parent organizations, student organizations, religious organizations, etc. This procedure reflects the determination to keep all people who are concerned about education in Sweden informed as to impending changes and provides an opportunity for them to participate in planning for change. When a commission receives comments from the various external organizations, they are reviewed carefully by the commission and its subunits, and changes in the draft may ensue. If curriculum in question is for a new school, or if it is a major change in curriculum for current schools, the results of the work of these Commissions are submitted to Parliament for approval.

The Läroplan

The development work of such Commissions creates a framework for curriculum. Within that framework, the National Board of Education ultimately organizes committees of specialists to develop the actual curriculum that is to be used in the schools. The products of curriculum planning in Sweden are combined in a syllabus and study-plan manual called the Läroplan. Normally, the curriculum so specified is also submitted to external organizations for comment, and is tried out experimentally in a sample of schools. Feedback from both external and internal sources furnishes data for whatever revisions are needed. The revised curricular plans are then published and distributed to the schools, through local school boards, for implementation.

Curriculum planning strategies are similar for the nine-year compulsory and new gymnasial schools. The Läroplan for each type of school is a document of about 500 pages in length, setting forth the goals and objectives of the school and recommended methods of instruction and internal organization related to these objectives. School objectives are established within the context of five broad national aims: (1) to provide equal opportunity for public education without regard to income, social origin, sex, or place of residence, and to meet differentiated group and individual needs; (2) to safeguard and strengthen the democratic system and its methods, through group work, discussion, civic education, and education which stimulates critical thinking; (3) to prepare and train individuals in skills with which they can contribute toward general economic development; (4) to commit the educational system to flexibility of operations, in response to changing social, individual and economic needs, and (5) to use educational resources (including human resources) effectively and efficiently through careful planning and arrangement.

Both the Läroplan for the Grundskolan (compulsory "foundation" or primary schools) and the Läroplan for the Gymnasieskolan (upper secondary schools) are published in two parts. The first section of Part I is a brief statement of the goals and objectives specific to the type of school, and the second section is devoted to general suggestions for school activity. This second section discusses general social educational policy, background information and forms of instruction, pupil evaluation, and instructional planning. A third section contains the time schedule, i.e., hours per week required for each subject area; and the fourth section outlines the sequence in the various subject areas indicating objectives and principal content for each of the three levels of the school, as well as instructional suggestions.

Part II of both documents is a series of supplementary pamphlets, each devoted to a single subject. They tend to contain a general expansion of the subject matter and more detailed instructional suggestions including models of ways of approaching the teaching of the subject. Additional supplements are being published all of the time, and they are subject to constant revision.

Curriculum Implementation

Curricula that are planned and published at the national level are distributed to teachers throughout Sweden via the local boards of education, and it is expected that they will be implemented in all elementary and secondary schools. Curriculum manuals are provided free to teachers by most local school boards. The actual implementation processes are up to the teachers in the individual schools.

There are three strong influences, other than the personalities and wills of teachers themselves, upon curriculum implementation. One influence is the time tables that are part of every curriculum document, indicating

that so much time per week must be given to specific subjects. Teachers are bound by these schedules. The textbooks that teachers use in their classrooms are another influence. All textbooks have to be approved by the National Board of Education, and naturally, the approval agency checks the content of proposed textbooks against the content of the appropriate curricular plans prior to granting publication approval. A third influence consists of the inspectors maintained by the regional boards of education and the advisors for the new gymnasial school that are provided by the National Board of Education. These individuals naturally have considerable concern for the implementation of the designated Läroplan, and they exert their energies to assist teachers with implementation.

The implementation processes themselves are not rigorously organized. Teachers are expected to read a new curriculum thoroughly when it is published and received. Conferences of teachers of the same class or the same school subject are conducted in schools to discuss the curriculum and how to implement it. Sometimes the results of their decisions are recorded in a formal way; in other cases, no written record of the conference is maintained. The character of instructional plans that are developed thereafter are a responsibility of the individual teacher. As might be expected, some teachers prepare a simple calendar of events; others prepare rather elaborate instructional plans. Curriculum documents are deliberately written in very general terms and teachers are encouraged to be creative in the development of instructional strategies therefrom. In other words, the Läroplan -- at least officially -- is meant to provide guidance only, and cannot guarantee uniform instructional design.

Curriculum Evaluation

Systematic evaluation of curriculum at the operating level of the school is not required by the National Board of Education or any other agency in the administrative structure. Any evaluation that is done in schools is either unique to that school, or it is an evaluation or research project undertaken by external agencies or persons.

This does not mean that the National Board is unconcerned about curriculum evaluation. The Departments of Elementary and Secondary Education and the Research Planning Bureau within the National Board of Education are charged with great legal and social responsibility for the continuation of the education reform in Sweden. As part of their work, they periodically collect evaluation data that would be useful in curriculum change from samples of teachers and other resources. The institutes of education throughout Sweden are constantly researching educational practices and curriculum effects. Research may be carried out at the suggestions of the Research Planning Bureau of the NBE, or it may be initiated because of the particular interests of teachers' institute personnel. Data from any of these groups may be referred to planning groups for consideration in curriculum revision.

A closer look at national research in education may illuminate areas of particular success as well as some of the problem areas in current Swedish research planning.

Research in Education in Sweden

A very significant dimension of school reform in Sweden has been, and is, the strong commitment to make use of the results of educational research in decision-making. Not only has completed research been utilized, but new research has been commissioned to give direction to decision-making groups.

Most interesting has been the research-indicated elimination of homogeneous grouping in the new classrooms in the new elementary and secondary schools -- a complete reversal of the ability grouping designs which were once thought in many of the developed countries to be most educationally efficient and most humane in terms of students' emotional security.

Though the bulk of educational research and development in Sweden is funded and controlled by the National Board of Education or is accomplished by funding of university projects through the Office of the Chancellor, the Swedish Council for Social Science Research and the Tercentenary Fund of the Bank of Sweden are also significantly involved, as is made apparent in Table 6.

Research supported by the Tercentenary Fund of the Bank of Sweden since this fund was established in 1962 has been primarily in the social sciences. About half of the effort has been for study of psychology and pedagogics. The largest individual project has been an international study comparing teaching and achievement in a number of school sectors in 19 countries all over the world.

Table 6: Allocations for Educational R & D, 1974-75

Institution/Authority	Skr million
National Board of Education	26.6
Office of the Chancellor of the Swedish Universities	11.2
Swedish Council for Social Science Research	5.8
Tercentenary Fund of the Bank of Sweden	2.4
Total Expenditures for R & D	46.0

Source: Educational Research and Development at the National Swedish Board of Education 1976, p. 29.

The Swedish Council for Social Research, founded in 1947, funds basic research in three sectors: general education, experimental education, and social education. Most of such research is university-based.

The research projects of universities and colleges are divided into four kinds: (1) Higher education and society -- structure and relations, (2) The organization and working patterns of teaching, (3) Evaluation: function and result control, and (4) Research and Development (R & D), organization development.

The National Board of Education is concerned with research at all school levels and has divided its research programs into six sections; one for each level -- pre-school education, compulsory elementary schools, upper secondary schools, adult education, and teacher education -- and a section for research in matters which cut across these four levels. These programs and their relationship to government and local sectors are illustrated in Figure 4.

Research efforts of the National Board of Education are integrally a part of the nation-wide systems approach to educational problem solving. As a result, the focus is primarily long-range, rather than on the more minute concerns of everyday school practices. There is recognition that some sacrifice of short-range, immediately useful research is involved, but the need for over-all strategic planning is viewed as the most essential consideration at this point in the development of Swedish education.

Regardless of the source of research initiative, whether at the level of the Research Planning Bureau of the NBE or at the level of institutes of education, the preponderance of research is therefore related to the problems of the educational reform movement, and it makes the claim for "rolling reform" a valid one. Research is viewed in a very broad sense; even the fact

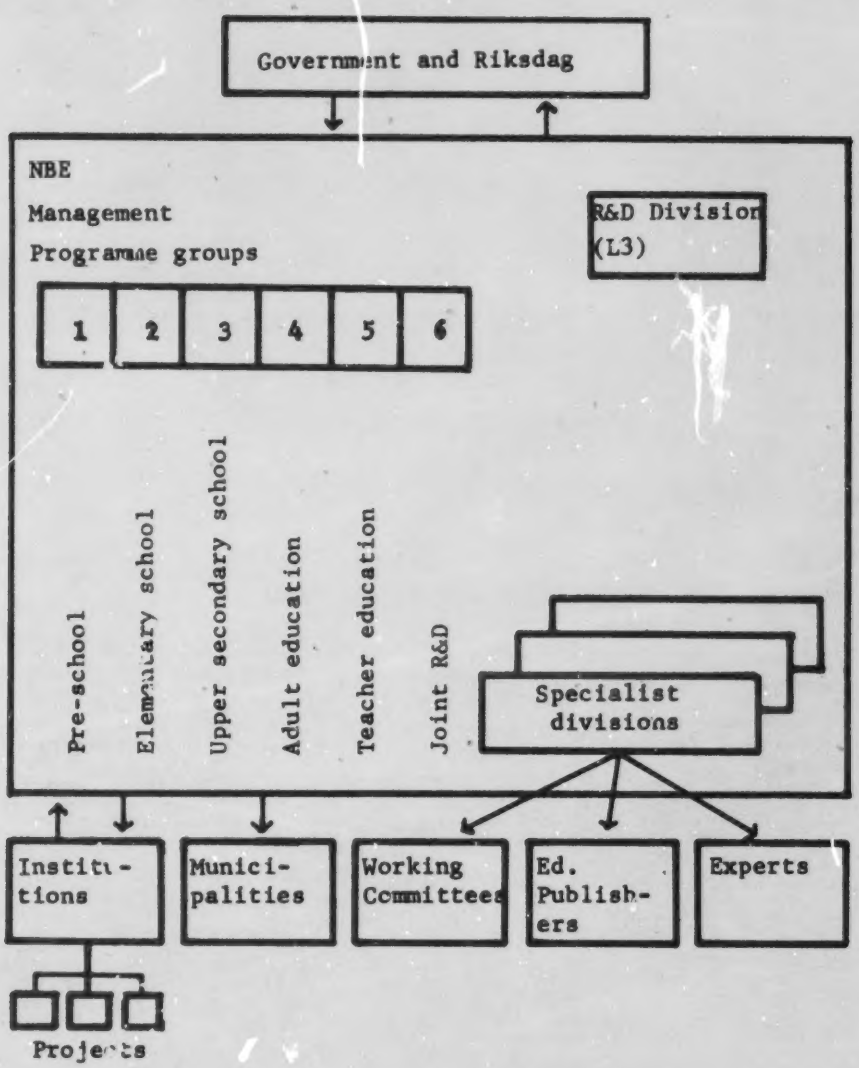


Figure 4: Organizational Structure of Research and Development at the National Board of Education

(Source: Educational Research and Development at the National Swedish Board of Education, 1976, p. 39.)

that representatives of industry and the labor unions sit on the Steering (Advisory) Board of the National Board of Education implies that educational research will have a data base which takes into account widely diverse elements in the society.

Teaching Materials

Though much of the research concern is curricular, it is also devoted to the production and control of learning aids. A special NBE committee was established in 1965 to study the advisability of placing such production in the hands of a state-owned company. By 1976, an Institute for Teaching Material Information had been established, and a State-owned educational publishing firm, LiberLäromedel, was primarily charged with the production of teaching-learning materials. Educational funds are also invested in educational productions of the Swedish Broadcasting Corporation. Several teaching materials projects have been based on research findings from centers concerned with problems of the handicapped learner. The teaching materials section of the NBE also works collaboratively with interested commercial publishers to develop new print and other media materials.

The goals of such research and development (R & D) work are to improve the design of teaching materials and to evaluate their effectiveness, to improve the practices of utilization of such materials by teachers and students, and to fill in "gaps" in the range of materials available for different kinds of purposes and for different kinds of learners.

Despite increasing development efforts, materials are still considered insufficient in such areas as special training, immigrant education, Lapp education, certain fields of adult education, specialized upper secondary courses, and the vocational lines of upper secondary school, according to the

authoritative report entitled Educational Development at The National Board of Education compiled by Bo Estmer (1976, p. 57). Projects related to this sort of development work engage special teachers who plan prototypes and conduct practical experiments using the prototype materials. This is apparently a recent development in the overall Swedish research effort, building on experience which has accrued as the result of the earlier and more general reforms.

Estmer submits the case of nursing and welfare education as an example of the manner in which the problems of specialized training and education are approached. As the result of a thorough need analysis, data is gathered which forms the basis for the evolution of experimental models (one or more) and which serves also as documentation concerning the types of teaching/learning materials which will be required. A generalized and abbreviated version of what is involved in such an analysis is presented in Figure 5. In the case cited, converting this need assessment into actual components of training was made the responsibility of a "working party", which was appointed to design and assemble basic materials for several pre-training sequences for nursing and welfare workers. These designs attempted to establish practice conditions in the classroom that were as realistic as possible. After field trials, a basic "package" of self-instructional materials was prepared for the use of students in these preparatory courses. The packaged materials are multi-media, and have been produced in collaboration with a commercial publisher. These self-instructional materials are viewed as practical tools which operationally complement the more theoretical materials which are presented in standard texts. The package contains (1) student booklets, with written working instructions and tasks,

(2) tape recorded instructions (cassette and head-phone set-up), (3) a teacher's manual, and (4) various items of technical equipment.

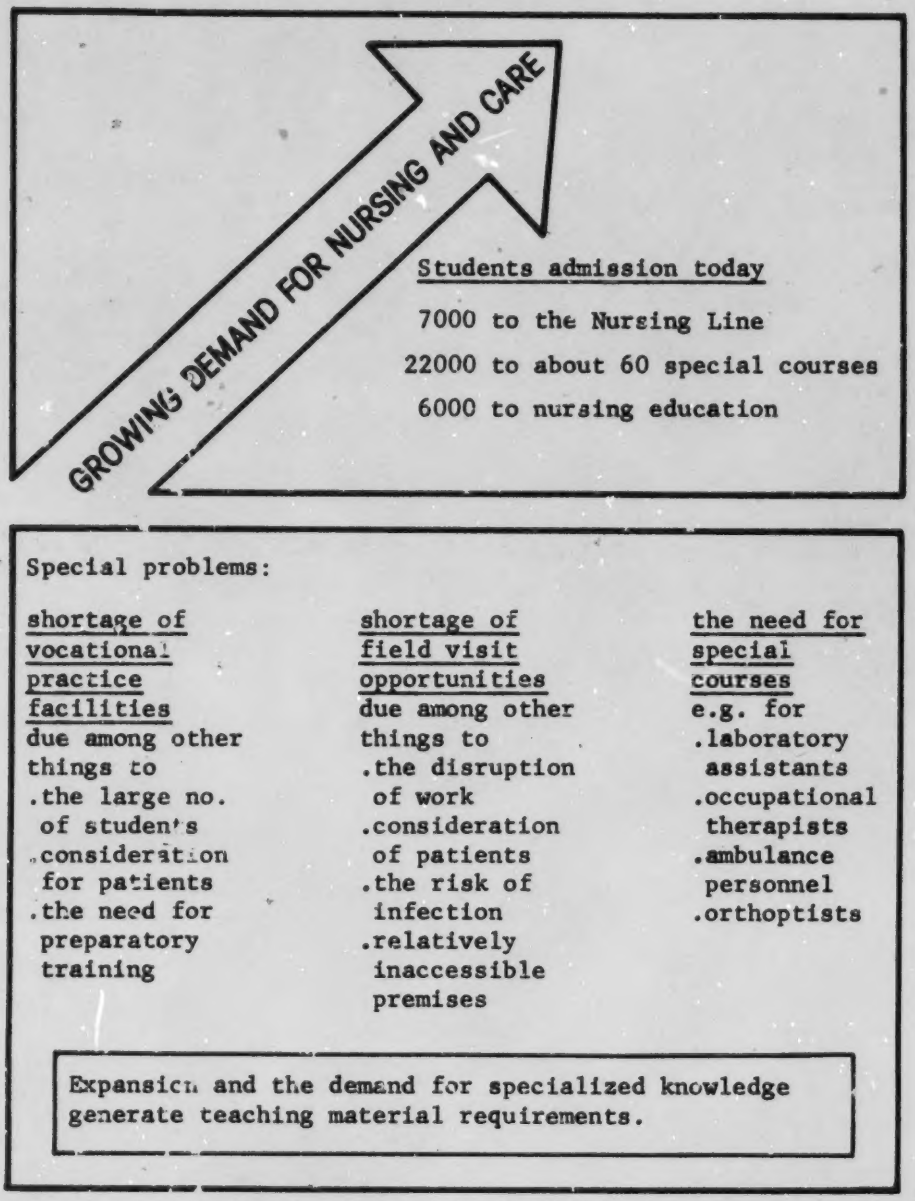

GROWING DEMAND FOR NURSING AND CARE
Students admission today
7000 to the Nursing Line
22000 to about 60 special courses
6000 to nursing education
Special problems:
shortage of vocational practice facilities due among other things to
.the large no. of students
.consideration for patients
.the need for preparatory training
shortage of field visit opportunities due among other things to
.the disruption of work
.consideration of patients
.the risk of infection
.relatively inaccessible premises
the need for special courses e.g. for
.laboratory assistants
.occupational therapists
.ambulance personnel
.orthoptists
Expansion and the demand for specialized knowledge generate teaching material requirements.

Figure 5: An Example of Teaching Material Development at the NBE

(Source: Educational Research and Development at the National Swedish Board of Education, 1976, p. 58.)

Evaluation

A special section of the National Board of Education, also located within the R & D division, is devoted to the construction of achievement tests. Practicing teachers, psychologists, subject matter experts from schools of education, and NBE personnel are engaged in this work which is considered an integral part of the "rolling reform" movement.

Two important longitudinal studies on the psychological and pedagogical effect of the educational reform are underway -- one dealing with an entire generation of elementary school children and one concerned with a complete generation of trainee teachers at all schools of education in Sweden. These longitudinal studies are not departmentally located in the evaluation section of the Board, but are a responsibility of the NBE as a whole.

Another sort of evaluation is conducted as "curricular follow-up," which consists of three stages: collection of information, analysis, and taking of practical measures which are indicated by the data collection and analysis. Questionnaires, interviews, conferences, etc. provide the means to collect information from students, school personnel, and other target groups. Practical measures taken as the new information is analyzed may mean curriculum modifications, clearer goal statements, initiation of in-service training, new teaching manuals, changes in the school environment, or even public information campaigns to produce greater awareness of what implementation of the curriculum involves. The data may also trigger significant basic and applied research projects. Figure 6 shows the relationship among data collection, analysis, and indicated practical measures.

Regional R & D

At the regional level, research and development responsibilities are

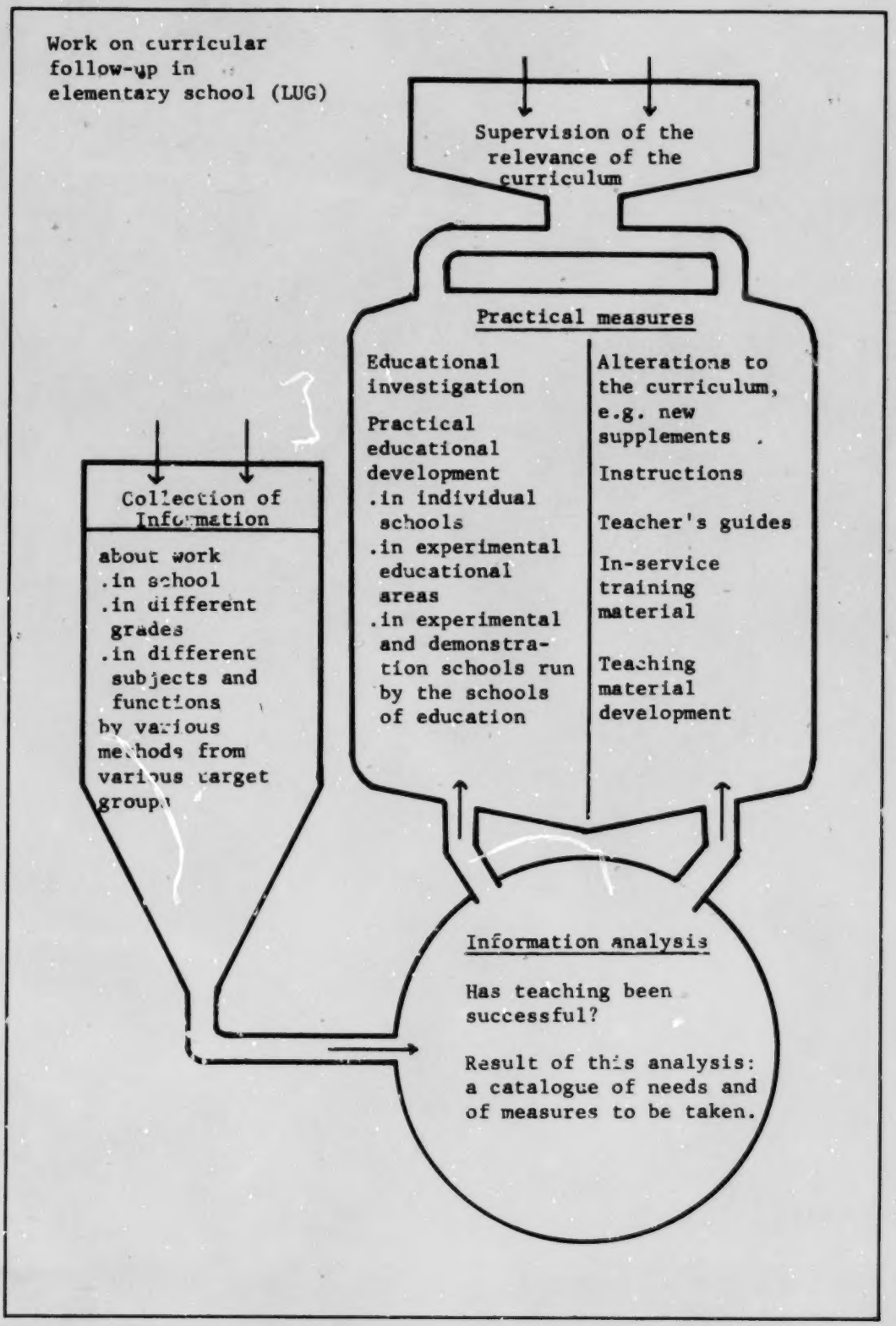

Work on curricular follow-up in elementary school (LUG)
Supervision of the relevance of the curriculum
Practical measures
Educational investigation
Practical educational development
.in individual schools
.in experimental educational areas
.in experimental and demonstration schools run by the schools of education
Alterations to the curriculum, e.g. new supplements
Instructions
Teacher's guides
In-service training material
Teaching material development
Collection of Information
about work
.in school
.in different grades
.in different subjects and functions
by various methods from various target groups
Information analysis
Has teaching been successful?
Result of this analysis: a catalogue of needs and of measures to be taken.

Figure 6: Curriculuar Follow-up in the Elementary School

(Source: Educational Research and Development at the National Swedish Board of Education, 1976, p. 69.)

divided between 24 county school boards and six regional boards.

County boards are composed of the county inspector of schools, school inspectors, in-service training officers, and county school psychologists. These groups oversee the on-site work of local and regional R & D; assess its relevance to local needs as well as to national educational objectives; make suggestions to municipalities concerning needed research and development projects; document on-going R & D activities, results, and future needs; and seek to equalize differences between municipalities, partly by initiating cooperative development work projects among them.

The regional boards represent both teacher institutes of various kinds and county school boards within each of six regions. Their task is primarily to coordinate educational research and development with basic and in-service teacher training. In pursuit of this goal, they help to establish research priorities, determine appropriate reference groups for research activities, inventory training needs and suggest future programs for teachers and other school personnel, and serve as advisors for project field experiments.

Some of these experiments take place in experimental and demonstration schools established as affiliates with Swedish schools of education, under the provisions of 1967 legislation designed to improve teacher training. The purpose of such schools is to bring about a closer integration of theory and practice, shortening the time lag between initiation of new issues and materials and classroom use. A major concern is "concretization" -- the demonstration of methods and materials in these college-affiliated but actual school settings.

How such experimental and demonstration schools work to research, develop, and disseminate new pedagogy is shown in Figure 7. A series of

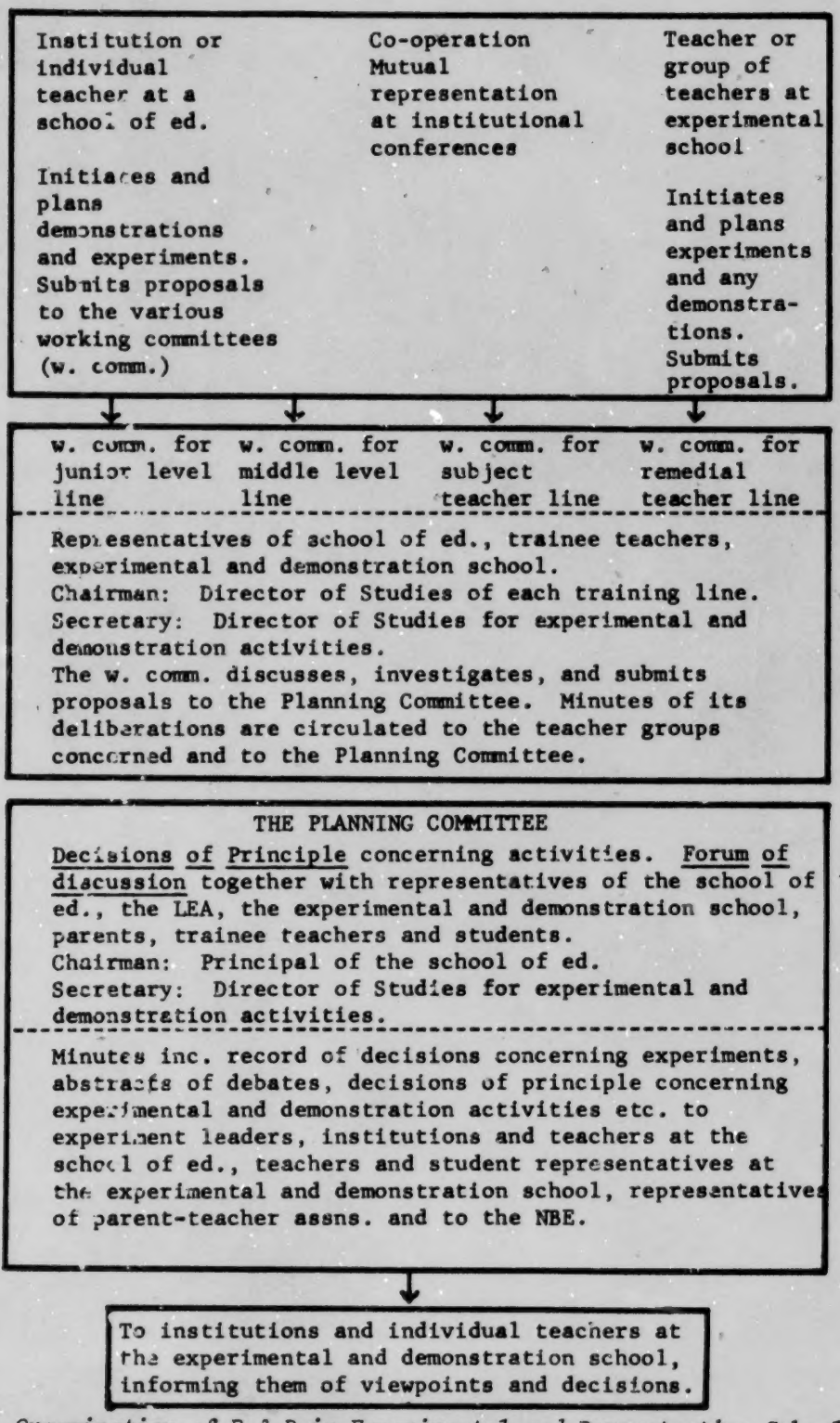

Institution or individual teacher at a school of ed.
Initiates and plans demonstrations and experiments. Submits proposals to the various working committees (w. comm.)
Co-operation Mutual representation at institutional conferences
Teacher or group of teachers at experimental school
Initiates and plans experiments and any demonstrations. Submits proposals.
w. comm. for junior level line
w. comm. for middle level line
w. comm. for subject teacher line
w. comm. for remedial teacher line
Representatives of school of ed., trainee teachers, experimental and demonstration school.
Chairman: Director of Studies of each training line.
Secretary: Director of Studies for experimental and demonstration activities.
The w. comm. discusses, investigates, and submits proposals to the Planning Committee. Minutes of its deliberations are circulated to the teacher groups concerned and to the Planning Committee.
THE PLANNING COMMITTEE
Decisions of Principle concerning activities. Forum of discussion together with representatives of the school of ed., the LEA, the experimental and demonstration school, parents, trainee teachers and students.
Chairman: Principal of the school of ed.
Secretary: Director of Studies for experimental and demonstration activities.
Minutes inc. record of decisions concerning experiments, abstracts of debates, decisions of principle concerning experimental and demonstration activities etc. to experiment leaders, institutions and teachers at the school of ed., teachers and student representatives at the experimental and demonstration school, representatives of parent-teacher assns. and to the NBE.
To institutions and individual teachers at the experimental and demonstration school, informing them of viewpoints and decisions.

Figure 7: Organization of R & D in Experimental and Demonstration Schools

(Source: Educational Research and Development at NBE (1976, p. 73)

"working" committees -- composed of representatives of the particular school of education involved, its teacher trainees, and its demonstration school faculties -- are established to lay ground work for proposals which are written and submitted to a "planning" committee. This latter group, chaired by the principal or director of the school of education, informs teachers, student and parent representatives, and National Board of Education officers what decisions have been made concerning the proposals under consideration.

"Rolling reform" contributions are not, however, the sole prerogative of experimental schools; other local studies may be conducted at specific schools not affiliated with teacher training institutions. These local studies are typically not initiated by the teachers themselves, but are contracted for by Boards of Education at the request of national planners.

Underlying these and other curriculum revision efforts is always the concern for systematizing development processes and for the application of social science research methodologies to assess effectiveness and establish directions for change. No less a concern is the search for newer and better ways to facilitate the flow of information at all levels of the total educational system.

Summary

Curriculum development is a national responsibility, according to the Swedes, and they have organized their efforts so that at one level, politicians as elected representatives of the people have a major decision role; at another, the role of politicians and professional educators is almost equally shared in regard to curriculum decision-making; and at still another level, professional educators are primary decision makers. The result is

indeed a national effort, and there are indications that, now that major reforms are already well underway, lay citizens and even the students themselves will be able to contribute their insights and perspectives to the on-going process of rolling reform and to insure the relevance of Swedish education in a charging world.

The intent of Sweden's school reformers is not significantly different from the intent of educators throughout history and throughout the world : the optimal development of individuals and of society. What is different about the Swedish experiment is its systems-scientific orientation, which seeks to take into account the fullest possible range of variables, to organize and wrestle with these variables in a comprehensive and coherent way, and to accomodate new ones -- as they arise -- through highly responsive change mechanisms and revolutionary development strategies.

The educational course which Swedish society has set for itself is a demanding one, fraught with unprecedented complexities and uncertainties. Yet it seems sufficiently well conceived to bear watching. This sort of pioneering in Sweden may well serve to establish a working, contemporary school systems model from which other nations can profitably derive their own unique educational solutions, over the next few years.

Chapter IV

THE CASE OF THE UNITED KINGDOM: ENGLAND AND WALES

Introduction

There are nearly 10 million students in full time attendance at lower level schools and at institutions of higher education in England and Wales, accounting for 90 percent of the school age population. Most of these schools, colleges, and technical training schools are publicly maintained or assisted. Universities are autonomous, self-governing institutions but are also aided from public funds.

In England and Wales, the main development of publicly provided primary education began over a hundred years ago. As early as 1833 the Government had begun to make annual grants to the voluntary societies which were providing schools, but it was the Elementary Education Act of 1870 which first established the principle of compulsory education. By the end of the nineteenth century, elementary education had become virtually both compulsory and free of charge. Public provision of secondary education was undertaken as a result of legislation enacted in 1902. The Education Act of 1944 now governs public education in England and Wales.

A ten-year educational program for England and Wales was announced by the Government in 1972. It involves substantially increased expenditure in five sectors: a new program of nursery education for children age 2 to 5 to be provided free in public nursery schools; a larger building program for the renewal of primary as well as of secondary and special schools; a larger teaching force to improve further the staffing standards in schools; new measures to improve the pre-service and in-service training of teachers; and the development in higher education of a wide range of opportunities for

both students and institutions.

Financing the Schools

The estimated public expenditure for education in England and Wales from 1965 through 1973 is shown in Table 7, which also shows the distribution of funds by level of education.

Table 7: Estimated Public Expenditure on Education, England and Wales (in thousands).

Year	total (pounds sterling)	first level[1]	second level[2]	third level	other types of education	Expenditure not allocated by level
1965	1217650	24.7	39.5	20.6	2.4	12.8
1970	1985245	24.0	36.4	25.3	2.5	11.8
1971	2308474	24.2	37.1	24.3	3.2	11.2
1973	3074200	24.2	41.4	25.6	4.5	4.3

[1] includes preschool and primary

[2] includes general, teacher training and other second level education

[3] includes special education, adult education and literacy, religious schools and similar institutions.

Source: UNESCO Statistical Yearbook. UNESCO, Paris, 1976, p. 414.

In Table 8, the total current and capital expenditures of public funds for education are specified. Public expenditure for education is expressed also as percentage of the gross national product (GNP) at current market prices, and as a percent of total public expenditures.

As can be seen from the graph in Figure 8, primary and secondary schools absorb nearly 60 percent of public funds for education, and post-school education receives approximately 26 percent of the total public expenditure.

Figure 8: Percentage Distribution of Public Expenditure on Education in England and Wales in 1974-75

(Source: Education in Britain, Central Office of Information; London R 4751/76 p. 2.)

Table 8: Total Public and Current Expenditure, Capital Expenditure (thousands); Percentage of GNP and of All Public Expenditure: England and Wales

Year	total expenditure (pounds sterling)	Current expenditure: amount	as % of total	Capital expenditure	total as % of (GNP)	total as % of all public expenditure
1965	1565639	1217650	77.8	347989	--------	--------
1970	2521917	1985245	78.7	536672	--------	--------
1972	3175600	2678400	84.3	497200	--------	--------
1973	3650684	3074200	84.2	576484	--------	--------
1974	4717800	4180300	88.6	537500	--------	--------

Source: UNESCO Statistical Yearbook. UNESCO, Paris, 1976, p. 388.

Enrollment

Parents are required by law to see that their children receive efficient full-time education at schools or elsewhere, between the ages of 5 and 16.

There are over 9.2 million children attending some 23,000 primary and 5,000 secondary schools. Table 9 shows the number of pupils, teachers and institutions at the different educational levels.

Table 9: Number of Institutions, Pupils, and Teaching Staff on the Three Levels of Education

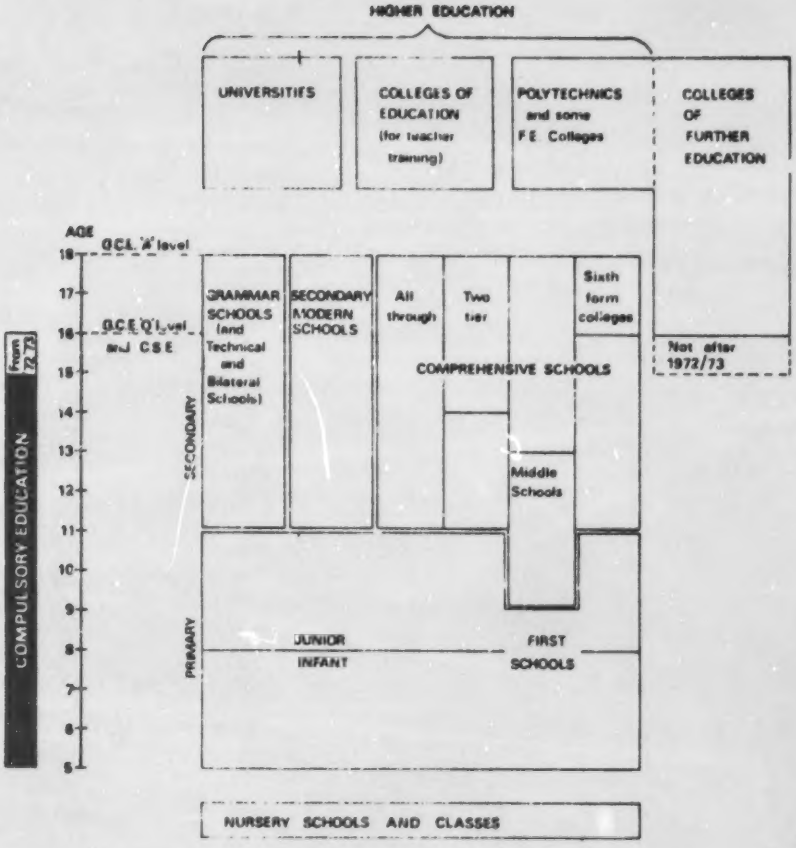
School level	No. of institutions	No. of pupils	No. of teaching staff	pupil/teacher ratio
primary 5-11	25,300	5,454,376	248,174	1:22
secondary 11-18*	3,000	3,868,396	67,058	
third level		773,000		1: 8
A-Universities	45	307,000	32,000	1: 8
B-Polytechnics	30]		------	----
C-Colleges	790			

Source: UNESCO Statistical Yearbook. UNESCO, Paris, 1976. pps. 149, 208, & 262.

*Figures are available only for 1972.

Boys and girls are taught together in most primary schools and in an increasing number of secondary schools.

As indicated in Table 9 above, 70 percent of the maintained secondary school population in England and Wales attend some 3,000 comprehensive schools which take pupils without reference to ability or aptitude and provide a wide range of secondary education for all or most of the children of a school district. They can be organized in a number of ways (See Figure 9) including schools that take the full secondary school age range from 11 to 18; the middle schools whose pupils move on to senior comprehensive schools at 12 or 13, leaving at 16 or 18; and the comprehensive school with 11th



Note. Secondary modern schools provide a general education up to the minimum school leaving age, though pupils can stay on beyond that age.

Figure 9: Organizational Structure of the English School System

(Source: The Educational System of England and Wales, Department of Education and Science, Revised 1972. p.11)

or 12th grades combined with sixth-form college for pupils over 16. Most of the remaining children receive their secondary education in schools to which they are allocated after selection procedures at the age of 11. Schools receiving pupils on a selective basis are about 740 grammar schools providing a mainly academic education; some 1220 secondary modern schools giving a general education with a practical basis; a few secondary technical schools offering a general education related to industry, commerce, and agriculture; and schools providing all three, or any two types of education in separately organized streams and known as multilateral or bilateral schools.

School Buildings

Local Education Authorities (LEA's) and voluntary bodies are responsible for providing the schools and other buildings needed for public education in their areas. Grants up to 85 percent of the approved cost are normally available from the Department of Education and Science or the Welsh office for building of new voluntary-aided schools. The school building program has provided an impetus for the expression of new ideas and the origination of new methods in design and construction. Space is being used more flexibly, particularly in primary schools, to meet the environmental requirements demanded by the use of new teaching methods.

Teachers and Instructional Staff

Teachers in publicly maintained schools are appointed by Local Educational Authorities or school governing bodies. Such teachers must hold qualifications approved by the appropriate education department. In 1975, there were about 315,232 teachers (including the full-time equivalent of part-time teachers). A predicted decline in total school population is expected over the long run to permit continued improvement in the pupil-teacher ratio,

which is already somewhat lower than the ratio in most nations -- about 20 to 1.

Administration

Educational responsibilities are variously distributed among government ministers. The Secretary of State for Education and Science is responsible for all aspects of education in England, for further education in Wales and for universities teaching civil science and the arts throughout Great Britain. Nursery, primary and secondary education in Wales, are, on the other hand, the official responsibility of the Secretary of State for Wales.

Administration of publicly provided schools and further education programs is divided among the departments of the central government (The Department of Education and Science and the Welsh Office), Local Education Authorities and various voluntary organizations. The relationships among these three groups can best be described as based on principles of joint and mutual cooperation.

Local Educational Authorities are responsible for the conduct of school education and most post-school education which takes place outside the universities. Universities are administratively independent, and their governing bodies are appointed according to the terms of their individual charters or statutory provisions. The Government exercises its responsibilities in regard to the universities primarily through the agency of the University Grant Committee.

Higher Education

There has been a rapid expansion in higher education in the last decade and a half, achieved to a large extent by creating ten new universities; by

developing a number of college into universities (30 of them into polytechnics specializing in advanced work); by widening the range of flexibility of courses; and by establishment of the Open University.

Most students at universities are undergraduate; in 1974-75 there were about 258,000 full-time university students, including nearly 49,000 post-graduates. There were about 32,000 full-time university teachers. The ratio of teaching staff to students was about 1 to 8.

The Open University

The Open University is a non-residential university which provides part-time degree and other courses, using combinations of television and radio broadcasts, correspondence courses and summer schools, together with a network of viewing and listening centers. No formal academic qualifications are required to register for these courses, but the standards of its degrees are the same as those of other universities. In July 1976, some 50,000 students were enrolled in the Open University.

Arena for Curriculum Development: The School Unit

It should be noted that there is nothing resembling a national curriculum system in England. No organizational unit with the Department of Education and Science has as its responsibility the planning of a curriculum for England's schools; and consequently, no organizational unit need be concerned with the implementation of a curriculum in England's schools. The only national directive to schools which is of a curricular nature is the legal mandate to include instruction in religion, directed by the Education Act of 1944. The complete absence of curriculum planning at the level of the Department of Education and Science rules out the nation as the arena for curriculum planning in England even though the education of children and

and youth is very much a national affair. Of course it would be very misleading to state that there is no concern about curriculum for schools within the Department of Education and Science or to state that the Department exerts no influence upon curriculum in the school. The point here is that because the curriculum is not planned at the national level, any discussion of personnel involvement, organizational arrangements and related activities are inappropriate in regard to that level.

The geographic area which is the responsibility of Local Educational Authorities also cannot be considered the primary arena for curriculum planning in England and Wales. The function of the Local Educational Authority (LEA) is to provide and maintain the schools, but it would not impose a curriculum on schools within its jurisdiction. As one administrative officer in a LEA which was visited in the preparation of this report stated, it would be considered "heresy" to suggest that such a function should be added to their offices or to a higher office. The Local Educational Authority performs many functions that are supportive of curriculum in schools, but it does not engage in curriculum planning as that concept is used here.

The only exception lies in those cases where an experimental or trial program is being tested in selected schools. In such an instance, the LEA may participate in planning and evaluation of activities related to these projects. For example, the Somerset Educational Authority worked with pilot projects in the development of new mathematics for primary schools under the auspices of the Schools Council and the Nuffield Foundation. The projects were carried out in selected schools in the Yeovil district, and the Local Educational Authority was instrumental in the coordination of efforts

between London and Yeovil. But projects like these are much more examples of curriculum implementation and the development of instructional materials than of curriculum planning per se.

The real arena for curriculum planning in England is the individual school unit. In the school unit, one finds a working team responsible for all the educational operations - curriculum, instruction, and evaluation. The team is composed of the headmaster and teachers of the school. The persons on the team are responsible to the board of governors, or to managers, whichever the case may be.

The person held primarily responsible for the various curriculum operations is the headmaster, the educational officer in England who has most direct authority and influence over curricular decision-making.

Under the leadership of their headmaster, teachers are fiercely jealous of their prerogatives for determining what will be taught in the classrooms. In England's schools the classroom teacher has extensive freedom in the selection of the subject matter to be taught, the instructional materials including textbooks, and teaching procedures -- assuming that such decisions are worked out cooperatively with the headmaster, or with the department head in a large school. This is in essence the nature of the working relationship between headmasters and teachers in English schools.

When there is a necessity to observe the output of the curriculum decision-making of headmasters and teachers, there are some obvious problems. From one point of view a curriculum for a school is a written statement about what is to be taught in the school. It is the product of curriculum planning. From another point of view, it is also possible to regard the curriculum as a set of unwritten agreements among professional personnel committing teachers to teach a certain body of subject matter. A corollary to the latter is

that curriculum consists also of a general set of agreements about curriculum, made tangentially to other kinds of decisions such as choice of textbooks and other instructional devices. All these conditions which influence curriculum decision-making outputs are observable in English schools, and it frequently is very difficult for an observer to identify precisely what the commitments (written or unwritten) are and to discover how the commitments are made.

Schemes in Primary Schools

In the primary schools the most common written expressions of curriculum are called "schemes of work". These schemes of work usually are brief outlines of topics to be covered in each subject by each class. Often a teacher's daily time schedule is considered to be part of the schemes of work.

Although most of the primary schools visited claimed to have schemes of work, and to use them as a directing force for instruction, it was not always possible to observe the two conditions. There seemed to be a great deal of reluctance on the part of many headmasters to display the schemes of work. Some of the reluctance may be attributed to a natural or spontaneous distrust of outsiders asking questions about vital school operations. In other cases, reluctance may have been attributable to the fact that the schemes of work were old and had not been worked out recently.

There are many schools in which written schemes of work simply do not exist. Rather, the contents of schemes of work are verbally agreed upon courses of action that teachers and headmasters carry around in their heads. This does not mean to say that in those schools there is any less concern for good educational practices than there is in schools with written schemes of work, but it is extremely difficult to identify precisely what is used

as the principal point of departure for teaching, where these circumstances exist. One is prone to jump to the conclusion that the textbooks are the directing force. Such a conclusion has to be modified, however, when it is realized that each teacher has the right to select his own textbooks whether his colleagues use the same texts or not. The point of departure for teaching is therefore individually determined by each teacher as he does his daily or long range planning, and there seems to be more concern for "how" to teach than for "what" to teach. Such a system tends towards very flexible teaching activity at the expense of a clearly thought-out, long-term design into which to fit such activities.

Syllabuses in the Secondary Schools

Conditions with respect to the development and use of curriculum ideas and materials are about the same in the secondary schools as they are in the primary schools, although the phrase "the syllabus" is used instead of the phrase "schemes of work" to describe any written materials that are of curriculum nature. The syllabus, for all practical purposes, is in the same format as the schemes of work. It is an outline of the various topics within each subject that are to be covered throughout each of the terms of the school year.

The syllabuses are generally prepared by department chairmen in cooperation with members of their departments, under the general supervision of the headmaster of the school. The degree, the scope and the frequency of production of syllabuses are very much dependent upon the headmaster. Some headmasters are very relaxed in terms of demanding the original preparation of, and subsequently, the up-dating of syllabuses by department heads; others are quite strict with respect to regular revision of such materials. There

seems to be a great deal of freedom and individual initiative in the use of the written syllabuses as points of departure for teaching in the secondary schools. As in the primary schools, each teacher is free to choose the textbooks and instructional materials he feels would be most helpful in the execution of his classroom program.

It is difficult to identify the sources of ideas that contribute to the creation of the schemes of work -- and subsequently to the actual program -- in the primary classrooms. In the secondary schools at least one very strong influence is obviously operating to determine both the nature of the syllabus and the program actually carried out. England and Wales have traditions of externally imposed examinations which dictate the content of secondary school subjects. In all secondary schools visited, comments were made expressing the concern of headmasters and teachers in almost all subjects about the passing of the examinations by pupils in their schools. Examinations in secondary schools for the General Certificate of Education have been imposed on the schools externally, that is, the examinations have been prepared by boards, the members of which may not be directly concerned with the operations of the secondary schools involved. Examinations are prepared in individual subjects, and those examinations are used in the secondary schools which are within the jurisdiction of the examing boards. The examining boards have exerted a substantial influence upon the syllabuses of the schools. Recently, however, these procedures have been changed radically in the development of examinations for the Certificate of Secondary Education.

In any case, whether the secondary school is a secondary grammar school, a secondary modern school, a secondary technical school, or a secondary comprehensive school, each school reserves the right to produce for local use

whatever curriculum materials in the form of syllabuses it may desire. The headmaster is again the individual responsible for the educational program in his school. Any strength or weakness associated with the curriculum materials and their execution is his responsibility.

As a result of a general realization that curriculum up-dating is needed to meet changing needs of the students and of the society at large, there has been a great surge of what are called "curriculum development projects" at the school level, during the last decade.

Influence Upon Curriculum

Though it is the responsibility of the headmaster in each of the individual school units to determine the nature of the curriculum for that school, there are both covert and overt influences upon headmasters and their teachers as they make curriculum decisions. In the following section, several of these influences are examined in some detail.

1. The Influence of Her Majesty's Inspector

School inspectors have a great deal of influence upon curriculum decisions throughout England. Technically, Her Majesty's Inspectors are agents of the Queen. But though they are appointed by the Queen in Council, they are also members of the Department of Education and Science and, as such, must work in conjunction with the Department and its aims. Nevertheless, the dual nature of their educational commissioning makes it possible for inspectors to exercise a great deal of individual autonomy.

Inspectors are chosen from the ranks of the teachers and headmasters, for one of the qualifications for appointment is experience as a teacher. The other qualifications are assessed at interview when appointments are contemplated. Inspectors seem to have little authority other than to inspect

schools and to report their findings to the Department of Education and Science. They do the inspecting without any official set of documents or directions about curriculum that is provided by any governmental agency. The point is made repeatedly that they are all experienced teachers, and therefore, they should know what to look for when they inspect schools. It is not quite this simple, however, when the matter is probed more deeply. The inspectors have an internal system of communication about what they are doing and through this system they maintain a semblance of unity and common purpose.

All schools in England have a general inspection once every six to ten years. These are comprehensive inspections that involve a number of inspectors. Plants, management, subject matter, instructional methods, pupil services and all other school operations are included. Each inspecting team prepares a report directed to the Department of Education and Science. Copies, if approved for issue by the Secretary of State, go to the headmaster of the school, to school governors and to the Local Educational Authority.

In addition to the general inspections, both formal and informal visits to schools by individual inspectors constitute an influence on the curricula of the various schools. This influence is exerted through the discussions that inspectors hold with teachers throughout their area of jurisdiction. As inspectors and teachers consult together concerning the problems of curriculum and instruction, inspectors have an opportunity to help direct teachers toward decision-making which will enhance their teaching. In this connection, it should be stated that part of the inspector's job as he visits schools is to discern the problems of teachers, to note what on-site decisions teachers have made and to observe how they followed the inspector's own recommend-

ations made in previous visits.

Another way the inspectorate influences teachers is through the conducting of short courses or workshops for teachers. These are actually a very powerful influence in the development of new techniques. A large number of these short courses and workshops are conducted each year all over England.

2. *Examinations*

Examinations for primary and secondary schools have been under scrutiny for at least a decade, and there is every reason to believe that this study will continue for some time. When the 1944 Educational Act made secondary education free for all youth in England for the first time, new schools were conceived and new circumstances were created which demanded alternatives in examining procedures.

In the primary school the only examination of any concern at all, other than individually imposed teacher's tests or examinations as part of the regular instructional program, has been the so called "eleven-plus" examination. At one time the eleven-plus examination was an externally imposed examination. It is now rarely used. Where allocation to separate secondary schools still prevails, the headmaster and teachers of individual schools are encouraged to guide the destinies of their departing pupils in the light of their cumulative experience with each child. Any examinations they may use to help their guidance are therefore locally prepared. In addition, a great deal of pressure for the use of the external eleven-plus examination was removed by the creation of the comprehensive secondary school. With the comprehensive secondary school receiving nearly all pupils from the primary schools, decisions about the secondary and higher education futures of individual pupils may be deferred. However, in many comprehensive schools,

batteries of tests are given upon entry to determine which pupils warrant special attention.

In the secondary schools, two separate classes of examinations are used, leading to different certificates. For the General Certificate of Education, students may take examinations at two different points, approximately two years apart. The first of the series, referred to as the "O" level examinations, are taken customarily at age sixteen. A student may take the "O" examination in as many subjects as he wishes, and students typically take seven or eight of them. A few of the best students are examined in ten or more subjects.

The advanced level examinations, called "A" examinations, are taken ordinarily at the age of eighteen. A student typically is examined in three or four subjects at this level, each involving preparatory work in great depth during the two year period following his "O" examinations. Most universities officially require a minimum of two advanced examinations for admission, but in practice it would be unusual for them to admit a freshman without good grades in at least three advanced level examinations.

The examinations for the General Certificate of Education (GCE) have been conducted by a group of examining boards, and these examining boards have been university-based. Most of them were originated as a device to help universities in their selection of academically gifted students. The influence of these examinations has spread far beyond the limits originally intended so that their impact upon the curriculum priorities of the secondary grammar and the secondary mdoern schools has been pervasive, and for some educational purposes, much too exclusive.

A more recent development is the legitimizing of alternative examination procedures. The examination for the new Certificate of Secondary Education

(CSE) had its beginning operationally in 1965, although its conceptual origin was simultaneous with the creation of the Schools Council in the preceding year. The creation of this alternate credential (the CSE) is a direct outgrowth of the conversion to free secondary education in England under the terms of the 1944 Education Act. In the transition period, debate concerning the relative prestige of the traditional grammar schools and the new modern secondary school was both lively and protracted. The General Certificate of Education, externally created, geared to the grammar schools, and historically controlled by university-based examining boards, was viewed by many planners as an inappropriate certification for students enrolled in a new kind of secondary school, established to meet new kinds of goals. As a result, the Certificate of Secondary Education was conceptualized, criteria for attaining it were specified, and new examination procedures were developed.

There are fourteen regional examining boards for the CSE, and they have been granted full recognition as examining bodies by the Department of Education and Science. Examining may take place in two ways -- either through externally prepared tests on the content knowledge specified in the school syllabus, or through examinations conducted by individual schools. Whenever school or school group examinations are used, an external moderator must be provided. This combination of new and unfamiliar modes of examination precipitated research which has resulted in the present examination bulletin series, a set of informative publications initiated by the Secondary School Examination Council and now continued under the auspices of the Schools Council.

Issues surrounding the two classes of examinations (leading to either the GCE or the CSE) are far from settled, even though both types are by now well

established and tentative grading techniques have been accepted. Both general examinations will continue to dominate curriculum decisions unless schools begin to make curriculum determinations that precipitate a demand for more specific examinations based on more explicit and differentiated learning criteria. In the meantime, the examinations themselves remain the arbiters of the curriculum.

3. *The Schools Council*

The full name of the Schools Council is the Schools Council for Curriculum and Examination. The Council, established in 1964, is a major influence upon curriculum for schools in England. Its charge was described at the time of its founding by the following statement:

> Its first tasks were to complete constitution and membership, following the guide-lines laid down in the Lockwood Report: to assume responsibility for most of the curriculum and examinations work previously carried out by the former Secondary School Examination Council and by the Curriculum Study Group of the Department of Education and Science; and to decide on its own initial programs of activity (Schools Council, Change and Response, 1965, p.1)

Since its initial charge, Schools Council has steadily increased its efforts to stimulate new curriculum development, to improve examinations, and to develop its own innovative programs of action. A description of the organization of the Schools Council and selected examples of its programs will help to explain the significant influence the Council has upon curriculum practices in England.

The Schools Council is headed by a seventy-three-member Governing Council composed of representatives from thirty-one organizations including teachers' unions and associations, various councils, school leadership groups, and business and labor groups. Teachers dominate the membership of the

Governing Council and other main committees. Under the Governing Council there are the following committees and subcommittees, shown also in Figure 10:

Program Committee	Publications Committee
Curriculum Steering Committee A	First Examination Committee
Curriculum Steering Committee B	Second Examination Committee
Curriculum Steering Committee C	Subject Committees
Schools Council Committee for Wales	CSE Sub-Committee
Finance and Staff Committee	GCE "O" Level Sub-Committee

The Program Committee is the policy-generating group. Curriculum Steering Committee A is concerned with the curriculum for pupils from age two to thirteen and related proposals for research and development; Steering Committee B is similarly charged for pupils eleven to sixteen; and Steering Committee C is concerned with pupils fourteen to eighteen. There are presently sixteen Subject Committees which coordinate their work with the Steering Committees as appropriate. The titles of the remaining committees are indicative of their work.

The work of the Schools Council, other than committee functions, is directed by the senior staff, headed by three Joint Secretaries -- one from the Department of Education and Science, one from H.M. Inspectorate, and one from a local educational authority. In addition, there are project officers, field officers, a director of studies, an information officer, and other persons associated with the work of the various committees under the Governing Council.

The Schools Council has generated an extensive library of publications as a result of documenting the innovative work accomplished under its sponsorship. They include: teaching materials from curriculum development projects, reports of research projects, examinations bulletins, curriculum pamphlets, kits produced by Teachers' Centres, films, Wales school publications,

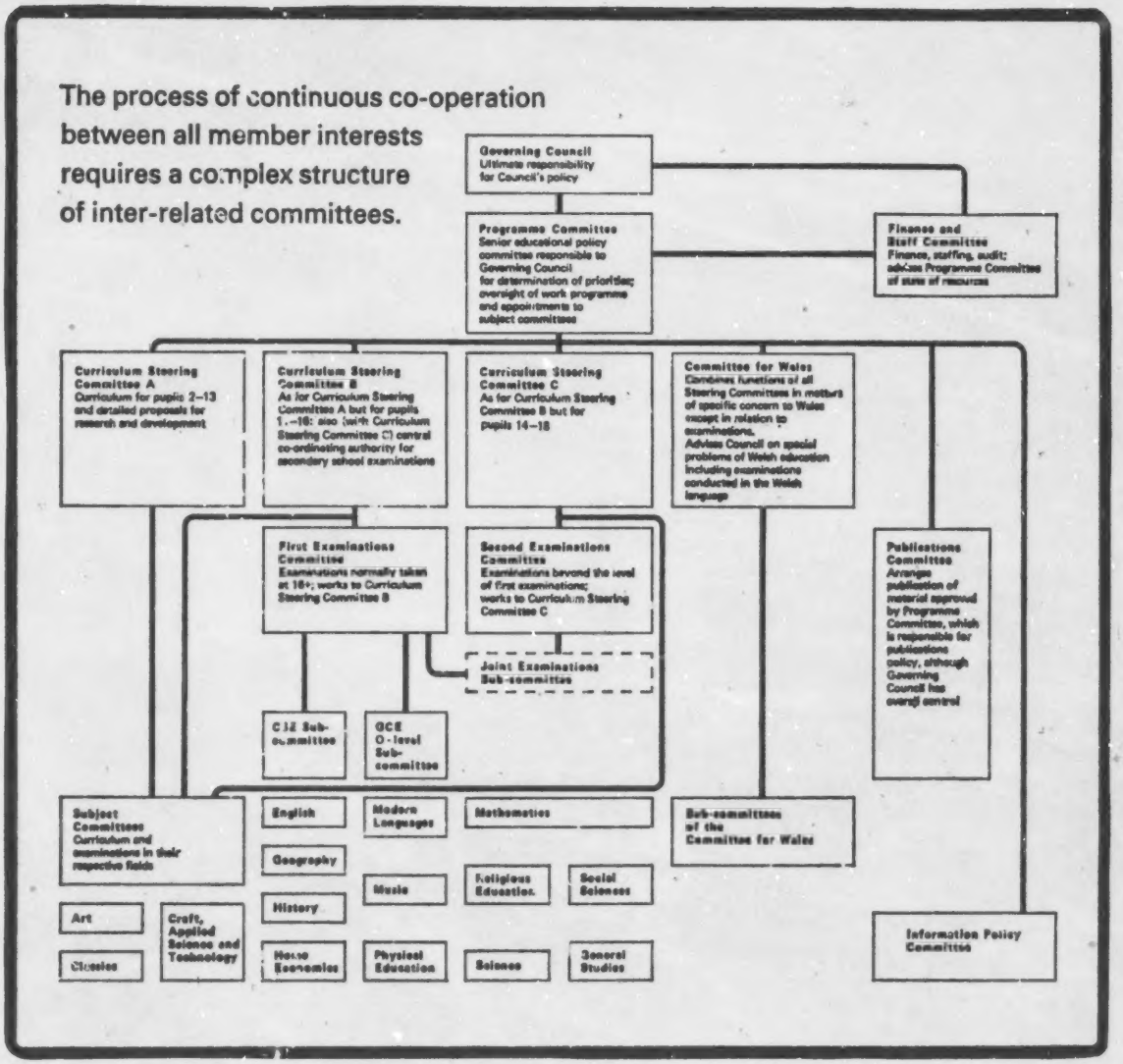

The process of continuous co-operation between all member interests requires a complex structure of inter-related committees.
Governing Council
Ultimate responsibility for Council's policy
Programme Committee
Senior educational policy committee responsible to Governing Council for determination of priorities; oversight of work programme and appointments to subject committees
Finance and Staff Committee
Finance, staffing, audit; advises Programme Committee on state of resources
Curriculum Steering Committee A
Curriculum for pupils 2–13 and detailed proposals for research and development
Curriculum Steering Committee B
As for Curriculum Steering Committee A but for pupils 1.–16; also (with Curriculum Steering Committee C) central co-ordinating authority for secondary school examinations
Curriculum Steering Committee C
As for Curriculum Steering Committee B but for pupils 14–18
Committee for Wales
Combines functions of all Steering Committees in matters of specific concern to Wales except in relation to examinations.
Advises Council on special problems of Welsh education including examinations conducted in the Welsh language
First Examinations Committee
Examinations normally taken at 16+; works to Curriculum Steering Committee B
Second Examinations Committee
Examinations beyond the level of first examinations; works to Curriculum Steering Committee C
Publications Committee
Arranges publication of material approved by Programme Committee, which is responsible for publications policy, although Governing Council has overall control
Joint Examinations Sub-committee
CSE Sub-committee
GCE O-level Sub-committee
Subject Committees
Curriculum and examinations in their respective fields
English
Modern Languages
Mathematics
Geography
Music
Religious Education
Social Sciences
History
Art
Craft, Applied Science and Technology
Classics
Home Economics
Physical Education
Science
General Studies
Sub-committees of the Committee for Wales
Information Policy Committee

Figure 10: Organization of the Schools Council

(Source: Schools Council: Representation and Organization, Schools Council publication, September, 1976)

miscellaneous brochures and information documents, and since 1968, a journal entitled Dialogue. It is not possible to appraise the precise degree of influence these publications have had upon curriculum in schools of England, but the effect is surely substantial.

The Schools Council does not work in isolation from other planners. Its efforts have been joined with those of other agencies and institutions, some of which are described in the following pages.

4. The Nuffield Foundation

The Nuffield Foundation has had a very significant influence upon curriculum practices in England. Either alone or jointly with the Schools Council, the Foundation has been active in sponsoring curriculum development projects in the sciences, mathematics, the classics, and foreign languages. In all cases, the cooperation of the Department of Education and Science, the appropriate Local Education Authorities, and individual school personnel has been considered essential.

These curriculum projects have differed considerably in detail, but they have all had the common objective of stimulating the updating of syllabus materials and revitalizing classroom procedures in light of modern advances in knowledge and teaching techniques. The Nuffield development schemes were designed to involve teachers in undertaking a thorough reappraisal of the aims, content, and methods in common use. Since 1970, the Foundation has largely withdrawn from sponsorship of curriculum projects at the schools level, transferring its resources to higher education instead, but the projects already sponsored have had marked influence on the modernization of curriculum content and school procedures at primary and secondary levels.

5. *Teachers' Centres*

Teachers' Centres are local curriculum development centers. There are perhaps five hundred or more of them throughout England and Wales. Though encouraged by the Schools Council, they are supported by the Local Education Authorities and are a reflection of a growing realization that teachers constantly need the opportunity to update the content knowledge they teach and the methods by which they teach it. There is a growing trend for Teachers' Centres and teacher training institutions in local settings to forge links for cooperative planning and work, when particular development activities are perceived to be of mutual concern.

The Teachers' Centres are often referred to as "curriculum development centers", yet the variety of projects undertaken and themes pursued would imply a very broad interpretation of the term curriculum. Themes for study have been drawn from such broad areas as curriculum change, (objectives and content), innovation and improvement in techniques of teaching, use of instructional media and other technological devices in teaching, and the development of teaching materials. For example, several centers develop materials which may be used in schools to explain and provide practice in the conversion of British currency to the decimal system. Some have organized discussion groups on the teaching of individual subjects, such as the teaching of English or creative writing. Others develop materials for the teaching of mathematics or science. Still others have established libraries and displays of successful school projects. Such a broad scope of activity indicates that a considerable amount of flexibility is permissible in the British approach to curriculum development.

For the most part, participation by teachers in the Teachers' Centres

is voluntary, although it is encouraged by the Local Education Authorities. Outcomes of projects have included the production of wholly new teaching materials, revised curriculum documents, and study reports. Many Teachers' Centres issue newsletters and bulletins in which they report their activities, thus providing means for cross communications among the centers, Frequently, notice of publication issues from outlying centers are publicized by the Schools Council through its journal, Dialogue.

6. Regional Development Centres

An extension of the Teachers' Centres idea is the Regional Development Centre, an organization created to give broad stimulus and direction to curriculum effort. The Regional Centre is a cooperative group sponsored jointly by a cluster of Local Education Authorities and a teacher-training institution. Where Local Education Authorities have established Teachers' Centres, they become a working part of the cooperative. The combination of an institution which has responsibility for teacher education in a given area and organized teacher groups from that same area in a single forum enhances considerably the possiblilites for retraining of teachers through curriculum development work.

The first Regional Development Centre was established at Manchester. It serves here as an example of the potential for this kind of agency in curriculum work in England. Originally, the Centre was established through the cooperative efforts of the School of Education of the University of Manchester, the Schools Council, Local Education Authorities, H.M. Inspectorate, and other interested parties. It was substantially supported by the Schools Council originally, but now it is entirely supported by the LEAs in the area.

Beginning in 1967 the Manchester Centre launched the North West Regional Curriculum Development Project, a project which aspired to develop curriculum for the new secondary school, prior to and in preparation for the official extension of the compulsory school age to sixteen. Leadership and responsibility for developing the various subject areas were shared by the participating local Teachers' Centres, but final decision-making in the project was reserved for personnel employed at the regional level.

7. *Sponsored Curriculum Development Projects*

Among the leading influences upon curriculum change in England is the sponsored curriculum development project. Most of these kinds of projects have been supported by the Schools Council or agencies in association with the Schools Council, e.g., the Nuffield Foundation. It is common practice for teams of teachers to be involved in sponsored projects. Frequently, the projects have been organized explicitly through the channels provided by existing Teacher Centres or Regional Centres, in cooperation with consulting individuals from teacher education institutions. In fact, most sponsored project directors have been university-based. The resulting combination of factors -- clear financial support, an available group of practicing teachers, and access to personnel and resources from university facilities -- all amount to a significant potential for impact upon school curriculum.

Although sponsored curriculum projects vary in scope, duration, mode of operation, aims, and outcomes, they do tend to show a common pattern of development. Normally, a project begins with *investigation* of aims and practices in the curriculum area of interest and of objectives which teachers set for themselves; this helps to constitute a set of working defintions for

the project. A second stage is the *creation of new materials*. A team of teachers, with help from specialized personnel, develop the kinds of materials needed in order to accomplish project goals. A third stage is *trial and revision* of these new materials. At this stage, the materials are tried out in the schools, feedback form those experiences is gathered; and the materials are revised accordingly. The fourth stage is *diffusion*, in which the materials are published and conferences and courses are organized through Local Education Authorities or institutions of higher education to help gain broad acceptance and intelligent use of the materials. At least in theory, ongoing evaluation is carried out at all stages of the project, and finally, an evaluation of the effects of the whole process is attempted.

In addition to the sponsored curriculum development project already mentioned -- the North West Regional project of the Manchester Centre -- a few other examples may help to characterize this kind of effort more fully.

The Humanities Curriculum Project was designed to develop materials and new teaching methods appropriate to inquiry-based courses which cross the traditional subject boundaries of English, history, geography, religious studies, and the social studies. Project workers concentrated on developing strategies for the teaching of controversial issues to pupils of average and below average ability. The Schools Council and the Nuffield Foundation jointly financed the project.

The Primary Education Project, sponsored by the Schools Council, was a study of teachers' thinking about the aims of primary education and about how these aims related to classroom practices. The end purpose of the study was to produce a handbook intended to help teachers to prepare their own statements of aims and to put them into operation.

Children's Readers, a project directed by the National Association for the Teaching of English and sponsored by the Schools Council, had as its purpose the investigation of the part literature can play in the curriculum of students from the ages of five to eighteen. The project encouraged the formation of teacher groups all over the country to discuss the role of literature and the teaching of it.

Science 5-13 is a curriculum development project jointly sponsored by the Nuffield Foundation, the Schools Council and the Scottish Education Department. The aim of the project is to assist teachers to help children, through discovery methods, to gain experience and understanding of their environment, and to develop powers of thinking effectively about it. The identification and development of topics and areas of science in relation to a framework of concepts appropriate to various pupil ages ranging from five to thirteen years is of primary concern, and books for teacher use will result.

The projects cited above fall more or less strictly within the purview of what is usually called curriculum development. But along with these efforts at curriculum change, a number of similarly sponsored but less narrowly defined inquiries and research projects on school-related topics have been initiated. All in all, the Schools Council has been instrumental in sponsoring more than one hundred curriculum development and research projects. When the total of these endeavors is added to the total of hundreds of smaller, self-initiated projects within the Teachers' Centres, the scope and magnitude of Britain's curriculum development efforts begin to emerge.

In this report, the projects sponsored by agencies such as the Schools Council and those initiated in local centers have been treated as *potential*

influences upon curriculum for schools. Work developed through these activities becomes part of a curriculum for a school only if it is accepted in that school. The final decision in this matter rests with the headmaster and his staff. It is one thing to design a social studies program in a center in a given locality. It is quite another matter to disseminate that program for use in a different locality. Leaders of projects have experienced difficulties at the point of diffusion to a broader spectrum of schools than those which participated in the original planning.

Teachers who participate in the generation of change and new ideas are more willing and able to implement those innovations than are teachers who have not had these participatory experiences. But this is precisely why the increasing involvement of teachers in centers and projects is considered a healthy and dynamic trend. Large numbers of teachers have already been fully engaged in the curriculum development process and have consequently sought to implement the results of their efforts. The schools which have such teacher change-agents on staff must surely benefit from their increased commitment and competence. Thus, above and beyond the anticipated benefits to be derived from new curriculum products, the British approach to curriculum development seems to proffer gains in staff development as well.

Because the problem of implementation of school innovations is recognized as a persistent and difficult one, a special investigation of the dissemination and implementation process has been commissioned at Chelsea College, with the support of the Social Research Council.

8. Other Influences

There are at least three additional factors impinging upon decisions

about what shall be taught in schools, factors which have not yet been mentioned. They are the textbooks for pupils, the individual notions of headmaster and teachers about what should be taught, and public pressure. All of these are known to be influential, but they are not as easy to describe as the influence of the Inspectorate, the examinations, the Nuffield Foundation, the Schools Council, or the specific development projects.

Textbooks. Texts of some kind are used in most English schools, but there seems to be little uniformity by district or even by building. That is to say, teachers and headmasters in individual schools and school districts do not feel compelled to "adoptions" of textbooks. The general rule is that the selection of textbooks is up to each individual teacher, and within the restrictions of funds for doing so, each teacher may choose textbooks quite different from those chosen by his colleagues. One can, and does, find teachers of different sections of the same class using different reading textbooks. Consequently, it is extremely difficult to say how much textbooks are used as a directive or a curriculum force in English schools. Seldom is it admitted, in interviews with teachers, that any of them religiously follow even those textbooks which they have themselves selected. It is possible to say with some assurance that in British schools, adopted systems of textbooks are unlikely to take the place of a planned curriculum.

Headmaster and Teacher Notions. The notions or conceptions of what constitutes a good curriculum which are held by headmasters and teachers is another powerful influence upon curriculum in England's schools. This is to be expected, given the amount of individual autonomy which school headmasters and classroom teachers are allowed. When the arena of

curriculum development is the individual school, and the project is wholly dissociated from broader regional and national inputs, attitudes and biases of the participating school staff members must be especially operative in the decision process. An example of how individual school intellectual emotional and social "climates" can produce rather consistent ideas about what curriculum is and should be is the fact that, questioned about why certain curriculum practices prevailed in primary schools, the common response from English school teachers was, "This is what we think a good education should contain." Furthermore, headmasters and teachers are the persons most susceptible to the effects of other influences upon curriculum, such as the examinations, the work of the Inspectorate, the impact of professional publications, and the circulation of project reports. Whether headmasters and teachers create a written document to be used as a directive for their teaching or not, the professional thinking of the individuals concerned is most certainly a potent influence upon what is taught in schools.

Public Pressures. Just as in any other society wherein the individual has the privilege of voicing opinions about public affairs, school patrons in England raise their voices to protest certain school practices, to press for innovative ideas, and to urge improvement in the tried and true. No doubt this action is a less organized part of the larger re-examination and change in English education that has been in process for some time now. The fever of change, highly contagious throughout history, is intensified by means of modern mass media of communication. In England, as elsewhere, school patrons hear about new science programs, the Initial Teaching Alphabet, automated instructional devices, etc., and they make their concerns

about their own school heard. Public officials, headmasters, and teachers expressed repeatedly, in various and unique ways, that they felt the existence of pressures of school patron groups. As a result, public pressure must be taken into account as a salient feature of curriculum development in England.

Concluding Generalizations

The data with respect to major curriculum questions in England and Wales can be encapsulated in the following conclusions:

1. A curriculum conceived as a product of curriculum planning, and as a total plan intended to be used as a directive force for developing instructional strategies in a school, has not been a major concern in England and Wales. For the most part, individual autonomy for control over what is taught in England's schools by teachers and headmasters has been maintained through very loose and casual preparation of "schemes of work" in the primary schools and "syllabuses" in the secondary schools.

2. The arena of curriculum planning in England is most often the individual school, despite national and area projects on various aspects of a curriculum. Acceptance of anything done externally is a decision made at the school level.

3. The persons who are directly involved in making decisions about what shall be taught in a school are the headmaster and the teachers in that school. Because of this, improvement of staff development procedures is a matter of some concern. Teachers participate in in-service training only on a voluntary basis, at the moment.

4. The organization of personnel and the techniques used in making decisions which result in the schemes of work and syllabuses are indigenous

to such factors as the kind and amount of leadership exerted by the headmaster, the character of the output of the processes, and whether the school is a primary or secondary school. Most schemes of work and syllabuses are of such brevity as not to demand complicated organization and techniques of working. The dynamic influences produced by interacting local, regional and national efforts are making an impact on curriculum planning. However, it remains to be seen whether more systematic and integrated curriculum planning at the individual school level will emerge.

5. Implementation procedures are even more informal than planning procedures in the school. The exceptions to this generalization are those circumstances in which a school staff implements the results of fairly substantial projects after in-service training and discussion. The Inspectorate may offer such in-service training. Normally, what schools are concerned with are "piece-meal" changes, rather than with the implementation of large-scale curriculum designs or school restructuring.

6. Evaluation as a system of feedback for judging the effectiveness of curriculum that has been planned and implemented is almost non-existent. There is some feedback provided through the examination situation of the secondary school. Teachers whose students persistently do poorly on examinations are subject to much criticism, but this circumstance is more an evaluation of the teacher than of the curriculum. Teacher panels also sit with examination boards to suggest modifications. Under the newer Certificate of Secondary Education, more direct feedback is possible because the examining boards are teacher-controlled. In the innovative projects supported by regional and national resources, there is a deliberate attempt to provide test and feedback information, but the sponsored

projects are virtually the only ones with this sort of evaluative component.

7. The curriculum system in England is in a state of transition. Curriculum strategies have not heretofore been consciously built-in features in the operations of schools. The right to make decisions about what shall be taught in the schools has been traditionally vested in the headmaster and teachers in the individual schools. The explosion of curriculum development projects is almost certain to have significant effect upon any curriculum system that may emerge in the future.

Though strong feeling persists that the teacher-pupil interaction is the most critical component of education, there seems to be growing recognition that the pedagogical ingenuity and insight of teachers in itself does not guarantee that excellent and effective education is occurring. To the personal contribution which the teacher makes -- a contribution which in England has always been regarded highly -- must be added the contributions which can be made from broader system perspectives. It is possible to envision for England and Wales a much more closely knit curriculum planning, implementation and evaluation cycle, with power of decisions remaining vested in individual schools yet with regional and national organizations taking leading roles in the stimulation of new inputs for the system, provision of resource personnel, etc. In fact, a closer integration of local and national curriculum development efforts seems already to be occurring, through the powerful coordinating agency of the Schools Council.

Chapter V

THE CASE OF THE U.S.A.

Introduction

American commitment to education and financial support of educational institutions exceeds that of any other country. State laws not only offer free public education but also require that all able young people participate. In addition, large numbers of schools and agencies offer opportunities for study in a variety of postsecondary institutions. American education has been remarkably successful at the massive undertaking of providing education for so many people. Education was the primary occupation of 62.2 million Americans in the fall of 1974. Included in this total were 58.9 million students, 3 million teachers and some 30,000 administrators and supportive staff. This means that, in a nation of 212 million, nearly 3 out of every 10 persons were directly involved in the education process. It is not surprising, therefore, that so much attention is being focused upon American schools and colleges and that a substantial share of resources is being allocated to education. The total expenditures of educational institutions amounted to approximately $100 billion during the school year.

Financing the Schools

Education in the U.S.A. commands a substantial share of local and state funds. Although declining enrollments are projected for the future, it is not anticipated that spending on schools will decline.

Total expenditures for public elementary and secondary schools increased from 26.3 billion in 1965-66 to 67.1 billion in 1975-76. Part of this increase is attributable to inflation, which in 1974 was 12.2

percent based on the Consumer Price Index.

The level of per pupil expenditures provides a more specific and more easily visualized index of rising costs. Even in constant dollars, average per pupil current expenditure continued to climb from $537 to $1,388 in 1975-76. Table 10 reflects these trends.

Table 10: Total Expenditures by Educational Institutions and Per Pupil in the U.S.A.

	Current unadjusted dollars	
	1965-66	1975-76
Total expenditures by regular educational institutions	Billions of dollars	
All levels	$ 44.9	$ 119.8
Public	35.1	97.5
Non-public	9.8	22.3
Elementary and Secondary Schools	29.7	75.0
Public	26.3	67.1
Non-public	3.4	7.9
Institutions of higher Education	15.2	44.8
Public	8.8	30.4
Non-Public	6.4	14.4
	Dollars	
Current expenditures per pupil in average attendance in public elementary and secondary schools	$ 537	$ 1388

Source: National Center for Education Statistics: Statistics of Trends in Education 1965-66 to 1985-86. January 1977.

Table 11 compares total expenditures for public and private education at all levels (elementary, secondary, and higher education) with the gross national product (GNP) as well as the percentage of GNP over the past twenty years.

Table 11: Gross National Product Related to Total Expenditures for Education: U.S.A. 1953-54 to 1973-74.*

Calendar year	Gross national product (in millions)	School year	Expenditure for Education	
			Total (in thousands)	As a per-cent of gross national product
1953	364,593	1953-54	13,949,876	3.8
1957	441,134	1957-58	21,119,565	4.8
1963	590,503	1963-64	36,010,210	6.1
1967	793,927	1967-68	57,213,374	7.2
1973	1,294,919	1973-74	**100,000,000	7.7

* Estimated

** Includes expenditures of public and non-public schools at all levels of education

Source: U.S. Department of Health, Education & Welfare, National Center For Educational Statistics, unpublished data; U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, August 1965, July 1971, and July 1974.

Estimated expenditures per pupil vary considerably by state, ranging in 1973-74 from a low of $727 in Kentucky to a high of $1,809 in New York. These figures reflect not only differences in effort but also regional differences in costs for providing identical educational services. Factors such as need for special services, cost of living, population density, and climate influence the costs of schooling.

The rising costs in education in the U.S.A. have prompted the examination of a variety of instructional techniques. Paraprofessionals, teacher aides, and youth tutoring make possible the use of instructional groups of different sizes and kinds to provide special assistance to students who need it. Experimental projects using television or computers have suggested that some uses of technology may be efficient. High costs for developmental activities and capital have prevented large scale study of

these alternatives.

Enrollment

Total enrollment in regular educational programs, from kindergarten through graduate schools, increased for 27 consecutive years before reaching an all-time high of 59.7 million in fall, 1977. Recently, there have been small annual decreases at the elementary school level, reflecting the fact there are now fewer children 5 to 13 years of age than in the past. Further reductions in elementary school enrollment are expected for the next several years because there will be fewer children reaching school age. Enrollment is continuing to rise at the high school and college levels. Table 12 reflects such changes.

Table 12: Enrollment in Educational Institutions by Level of Instruction in the United States, Fall 1965-1975. (Thousands)

School age population	Fall 1965	Fall 1975	Percent change 1965-1975
5 - 13	35,877	33,300	-7
14 - 17	14,201	16,902	19
18 - 21	12,371	16,545	37
18 (nearest birthday)	3,608	4,223	17

Source: National Center for Education Statistics: Statistics of Trends In Education 1965-1966 to 1985-86, January 1977.

High School and College Graduates

More than 3 million persons graduated from high school in 1975-76 and more than 1 million received earned degrees from U.S. colleges and universities. In the past 15 years the annual number of high school graduates has doubled; bachelor's and first professional degrees, tripled; and advanced degrees, quadrupled. These monumental growth rates reflect the rise in the number of young people of high school and college age and also a substantial increase in the proportion completing each level of education.

Schools and School Districts

There were approximately 16,700 local school districts in fall, 1973. More than 3,700 school districts were eliminated over a five-year period. The number of school districts has been gradually reduced through a process of reorganization and consolidation.

The number of public elementary schools is also declining, reflecting school consolidations and some elimination of small rural schools. In 1972-73 the public school system included 62,900 elementary schools, 23,900 secondary schools, and 2,000 combined elementary-secondary schools.

Teachers and Instructional Staff

The teaching staff in the U.S. schools and colleges grew rapidly during the 1960's, keeping pace with and frequently exceeding the rise in enrollments. The number of teachers has now stabilized at a high level. Between the fall of 1973 and the fall of 1974, the number of teachers remained close to the figure of 3 million.

The long term trend is for the number of public elementary and secondary school teachers to grow at a somewhat faster rate than school enrollment. Consequently, there has been a slight decline in the past few years in the number of pupils per teacher. There were 21.4 pupils per teacher in public schools in 1973 as compared with 23.2 pupils per teacher five years earlier. Table 13 shows comparative figures between 1965 and 1975, with percentage change in instructional staff at elementary and secondary levels in public and non-public schools. The lowest percentage increase is in non-public schools, where the pupil per teacher ratio remains much higher than in the public school system. The large increase in "other" instructional staff reflects the growing use of a variety of teacher and media specialists.

Table 13: Teacher and Instructional Staff in Public and Non-Public Elementary and Secondary Schools Between 1965-1975.

Characteristics	Fall 1965	Fall 1975	Percent change 1965-1975
Instructional Staff		Thousands	
Total Public	1,710	2,202	29
Elementary	965	1,183	23
Secondary	746	1,019	37
Non-public	220	261	17
Other instructional staff (public)	175	258	47

Source: National Center for Education Statistics: Statistics of Trends in Education 1965-1966 to 1985-86, January 1977.

The U.S. Commitment to Use of Science and Technology in Educational Design

With nearly 60 million students to educate annually, the U.S.A. has in recent years turned increasingly to its scientific and industrial communities for assistance in designing effective educational experiences and cost-effective educational systems. Observers within the nation as well as abroad have noted quite accurately the particular impact which behavioral psychology has made on U.S. educational theory and practice in the 20th Century. Together with celebrated post-Sputnik efforts to increase educational productivity and to overcome the perceived lag in science education as the U.S. entered the space age, behavioral theories of learning have led to what some observers may view as an excess of enthusiasm for the behavioral and systems "engineering" perspectives in educational planning.

Science and engineering motifs do occur repeatedly in the U.S. literature on education over the past half-century. In 1968, for example, George Beauchamp was writing that "Curriculum engineering consists of all the processes necessary to make a curriculum system functional in schools" (p. 108). What Beauchamp included in those processes was producing,

implementing, and evaluating the effectiveness of the curriculum and the "curriculum system" -- all obviously important aspects of educational planning.

Along with borrowing from behavioral and systems sciences and technologies, U.S. planners have consistently utilized a variety of model-building techniques from the social and other sciences. Though all of these adoptions from other fields have demonstrably widened conceptual possibilities and enriched methodological repertoires, there are some unfortunate legacies which plague U.S. educators' efforts to communicate what it is that they are attempting to do. Most crucial is the legacy of mixed metaphors and technical vocabularies that, attached to U.S. educational goals and strategies, make them appear unduly mechanistic and impersonal, and therefore suspect from the humanist's point of view. As a result, "curriculum engineering" tends to raise images of inflexible, monolithic educational machines, and "model-building" to evoke connotations of dehumanization and abstract mathematical precision in predicting and measuring human educational outcomes.

But the inherent eclecticism of the U.S. approach is, in fact, its strength -- reflecting as it does a firm commitment to an educated, pluralistic society and to an individualistic, effective learning experience for each citizen. Science is invoked as a means to an end, where both means and ends are intended to enhance the capabilities of citizens generally and to improve the quality of their lives. Because of the vastness and diversity of the educational problem-universe in the U.S.A., inescapable from the beginning of its progress toward universal public education, planners seem to have grasped eagerly every tool at hand which has given promise of

contributing toward problem-solution. If this has sometimes seemed to result in irresolvable philosphical differences and mass confusion, it has more frequently seemed to result in workable plans which have eventually met the challenge of educating nearly sixty million people a year.

In general, educational planners in the U.S. have come to respect the behavior-analytic and systems-analytic technologies as providing access to the information needed to make realistic improvements in educational practices. The technique of model-building is widely used -- not always with unqualified success at present, but with the confident expectation that it will become one of the most powerful tools available for incorporating the past, describing the present, and envisioning the future of education. The most useful models are explicitly conceptual, although explanatory diagrams showing important kinds and directions of activity may accompany the conceptual inventory, synthesis, and patterning. They are rich in perceptive and analytical detail and, at their best, fully satisfy both humanistic and scientific criteria.

U.S. curriculum developers seem convinced that model-building efforts can potentially lift much of the burden of exhaustive preliminary research from the shoulders of planners. Since an effective model is also an effective summary and heuristic for a particular point of view, reviewing a collection of such models, gathered from many sources, serves as a good beginning point for persons charged with new curriculum development. Such models are chosen for their generalizability, so that planners many readily abstract those principles which seem relevant to their own national and community settings. The planning process then becomes a matter of specific adaptation and innovation, rather than a matter of either laboriously reconstructing the

past or leaping uninformed and unprepared into the future. In other words, making useful alterations in a model already conceived -- or perhaps combining pertinent aspects from several different models -- to meet local requirements is a much easier task than starting the construction of a new plan wholly without reference to other experience. In fact, U.S. educators have constant practice in transporting models from one situation to another, because of the decentralized nature of the curriculum planning process and the differences in state and regional priorities.

Educational Motives in the U.S. -- Background for Model Building

Gwynn and Chase (1969) have identified five outstanding motives which have influenced curriculum development in the United States. The earliest chronologically was the religious motive, superceded by the political as the American colonies became an independent nation. Practical or utilitarian motives accompanied U.S. industrial development and, according to Gwynn and Chase, the motives of mass education and excellence in education have dominated U.S. educational thinking since 1920. It must be added that all of the motives cited are still exerting influence, although their relative strengths may change with changing social condition. As a result, curriculum developers must carefully accomodate all five motives in their designs, if they are to be effective.

Strangely, no mention was made of education in the Constitution of the United States. But the founding of a democratic government was itself an assumption that men could think intelligently for themselves and make decisions on their own behalf. Though the implication of self-government for educational practices were not plain to everyone in the early days of the republic, some voices appealing for public education were heard almost

simultaneously with the institution of the new law of the land. Demands for representative government and provisions for an educated populace have gone hand-in-hand historically, and are today inseparable in U.S. political and social theory.

Nevertheless, elitism in U.S. government and in U.S. education have not totally disappeared. Just as there are questions continually raised about the popular representativeness of Congress, and of the Executive and Judicial branches of government, so too there are questions raised about how equal U.S. educational opportunity really is and how much voice in the educational systems the common man really has. There are charges that social and economic elites still make most of the decisions, in education as in government, and that "grass-roots" needs, intentions and perspectives are often ignored. Counter-charges, in the case of education, are based on the belief that the headlong pursuit of mass education has diluted quality of education, and in effect, denied opportunity to the most talented and most productive students.

Controversies of this kind persist throughout the United States, so that at any gathering of citizens one may find persons committed to localism, to regionalism, or to federalism in education. That is, a number of people will express the belief, at one extreme, that control of a school should be fundamentally in the hands of the parents who send their children to that school, and at the other extreme, that the national government should assume all of the expense and responsibility for providing universal education. Most citizens -- and most professional educators -- subscribe to points of view which lie somewhere between these two extremes. The importance of grass roots sentiments and cooperation and the importance of federal supports

for education are more complementary than antithetical. The question becomes one of working out an appropriate balance of influence so that the decentralized system of U.S. education, already well established and operationally sound, does not deteriorate into fragmentary, isolationist, or bankrupt educational institutions; nor yet into monolithic, bureaucratic rigidity through progressive federal control.

Thus, out of long tradition and despite conflicting educational philosophies and judgments, the *community* remains the center of U.S. educational energy and supports the major arena of curriculum development -- the local school system. The concentration of religious, political, utilitarian, egalitarian, and upward-mobility incentives for education in local school districts has unquestionably increased the number of variables with which educational planners must be immediately concerned, but it also has assured responsiveness of school systems to changing social conditions. Though local school administrators often feel faced with the insurmountable task of "trying to please everyone," in fact, common public concerns in education are expressed throughout the nation and with the advent of mass communication systems, regional and local separation has significantly diminished and the goals for education are seen more often in the national perspective. That is, the nation itself has to some extent taken on the aspect of a community, with an increased citizen awareness that what affects localities affects the nation as a whole.

In the U.S.A., the national government exercises very little control over curriculum, except in the setting of expectations that school curricula throughout the country will conform to broad national values. The tangible means for setting such expectations are legislative measures and Supreme

Court decisions in regard to education which are supportive of such principles as equal opportunity in education, protection of citizen rights, and improvement of the relationship between manpower needs and educational preparation to meet those needs.

It is the society and its goals, then, which are presumed to be the legitimate concern of political representatives of the people, rather than education per se, which has traditionally been viewed as the prerogative and responsibility of each of the states.

The National Model for Educational Development

In addition to controls exercised through legislative and judicial policy-making concerning educational goal-setting, the federal government secures commitment to national values by making funding of various kinds of educational development activities contingent upon adherence to specific guidelines. Federal grants, the largest source of uncommitted educational funding, are made available only in particular areas of concern and with particular stipulations that equal opportunity and similar criteria for social progress are met. Most of these grants are made available through a variety of agencies within the Department of Health, Education and Welfare, though some funds are channeled through the U.S. Department of Labor where specific industrial or social service training programs are at stake. Secretaries of both Departments have Cabinet status in the Executive Branch of the federal government.

Office of Education

The U.S. Office of Education, formerly the U.S. Bureau of Education, was founded by an act of Congress in 1867. It is currently one of several operating agencies within the Department of Health, Education, and Welfare (See Figure 11). The Office is headed by a Commissioner of Education

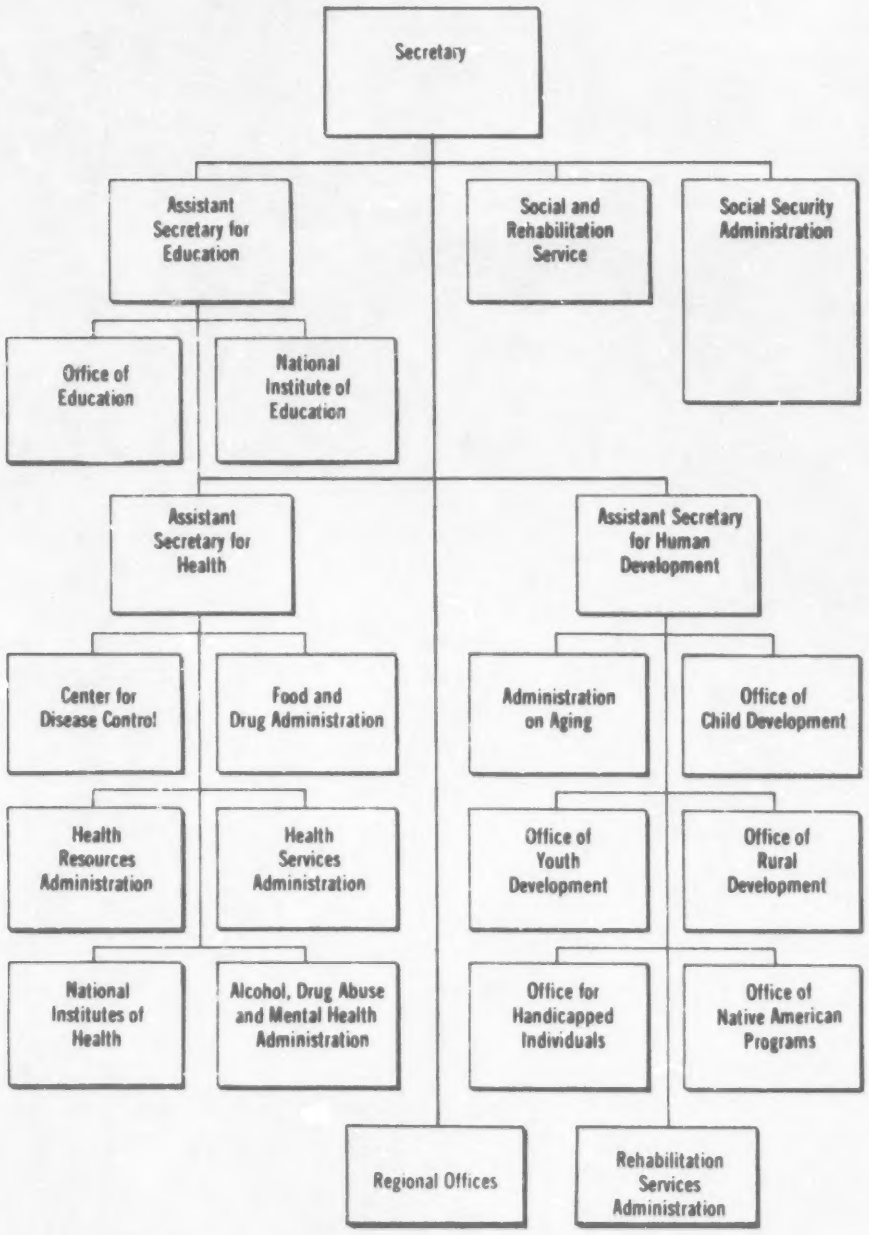


Figure 11

Source: Fauntleroy, James, ed. Federal Education Program Guide. Washington: Educational Resources Division, Capitol Publications, 1976, p. A-1.

appointed by the President with the consent of the U.S. Senate. Its major functions are educational fact-finding and distribution of published results, assisting school systems in problems of organization and management, acting in an advisory capacity to various undertakings of educational organizations and committees, and administering special kinds of federal funds for education (e.g., vocational, agricultural, compensatory education, etc.)

National Institute of Education (NIE)

In 1972, the Congress created the National Institute of Education, specifically for the purpose of helping to solve or alleviate critical problems of U.S. education through an intensified (and centralized) emphasis on research and development. The new agency represents a national commitment to the analysis of problems, the development of new methods and practices, try-outs and evaluation of innovations in schools, and assistance to schools in the adoption of tested ideas and materials. It is a recognition not only of a national obligation, but of the reduction in costs which can result from consolidating many fragmentary research efforts and avoidance of duplication. In the legislation which created the National Institute, Congress specified that "while the direction of the educational system remains primarily the responsibility of State and local governments, the Federal government has a clear responsibility to provide leadership in the conduct and support of scientific inquiry into the educational process." (NIE brochure, 1976, p. 3.)

The National Institute of Education (NIE) seeks to respond to the concerns and needs of educators, the Congress, and the public through a problem-oriented approach. Institute policy is determined by the National Council on Educational Research, a panel of citizens appointed by the

President and confirmed by the Senate. In this policy-making capacity, the Council has identified six program areas: Basic Skills; Educational Equity; Education and Work; Finance and Productivity; School Capacity for Problem Solving; and Dissemination and Resources.

Over the first two-year period of its existence the Institute collected data and made plans to attack specific problem areas by means of a series of national conferences. Institute personnel consulted also with a series of informed persons from both inside and outside of the nation's educational systems. Some of the research and development projects now underway in each of the six program areas are listed below.

1. Basic Skills- The program focuses on how students learn reading and mathematical skills, how teachers teach these skills, and how this learning and teaching should be evaluated.

   Sample activities: funding of regional laboratories to produce new materials and methods based on advanced research; sponsoring research on the nature of reading comprehension; developing ways to individualize instruction; research on required teaching skills; sponsoring experimental work on the development of mastery tests; exploring court decisions that affect education and considering how applied social science can affect such decisions in the future; and providing researchers and evaluators with improved methods of data collection and analysis.

2. Educational Equity- The emphasis in this program is to identify and address the special problems of persons who are not

well served by the present educational system. These include racial or ethnic minorities, women, students from families whose home language is not English, and students from low income families. The approach is first to understand these special problems and then to develop appropriate curricula and teaching methods to resolve them and insure quality education. *Sample activities:* improving bilingual instruction; evaluating federal, state and local compensatory education programs (which have spent more than $15 billion in the last ten years to aid disadvantaged students); analyzing social processes which contribute to unequal educational opportunity for women; investigating problems associated with the school as a social environment (e.g., discovering characteristics of schools which seem to invite disruptive behavior in students); and investigating school desegregation problems.

3. Education and Work- The primary goal of this program is to bring education and work into closer relationship with each other. *Sample activities:* development and testing of Experienced-Based Career Education (in which students participate in non-paid jobs in the community while maintaining regular secondary school academic programs); producing "career-awareness" educational television programs; developing, testing and disseminating more effective guidance and counseling materials (including non-discriminatory counseling information); testing and disseminating new curricula for career education; developing and evaluating alternative schools for "drop-outs";

investigating patterns of adult use of post-secondary education programs; and developing rural career education and guidance projects.

4. Finance and Productivity- The mission of this program is to help educational facilities meet the ever-increasing demand despite the critical problem of limited resources. *Sample activities:* assisting states and local school districts to equalize school financing; funding experimental school projects aimed at improving quality of education; studying differences between graduates in competency-based high schools and traditional high schools; helping to improve management systems of colleges and universities; supporting an "open university" consortium for adult learners; and developing a series of telecommunications programs for educational use in remote geographically isolated areas of the U.S.A.
5. School Capacity for Problem Solving- This program unit is devoted to assisting schools to develop new organizational skills which will help them make successful innovations. *Sample activities:* involving communities in making key school decisions (e.g., planning new schools and school programs, etc.); aiding teachers to expand their roles; supporting new organizational and teaching approaches; analyzing problem-solving strategies of selected urban schools; and trying out various kinds of networks of educators and community members.
6. Dissemination- Results of educational research and development often do not reach the teachers and administrators in usable

form, if at all. This NIE program is dedicated to remedying the situation by speeding the flow of new ideas to the schools. *Sample activities:* improving the Educational Resources Information Center (ERIC) system, whose network of 16 specialized information clearinghouses collects and makes available research reports and articles from across the nation; developing and distributing research based publications on subjects of special interest (e.g., continuing education for the elderly, social and cognitive development of young children, etc.); studying the nation's R & D system and making recommendations for improvements; and providing State Education Departments, professional associations and other key educational agencies with research information and catalogues of new materials.

Since the National Institute of Education is barely five years old, its eventual impact on curriculum and other educational planning cannot be predicted with any assurance. It seems certain, however, that the creation of such an agency constitutes widespread political and social recognition of the fact that education and society are inextricable, one from the other, and that advances in social science must be reflected continuously in the planning of educational systems if those systems are to meet the changing needs of the people who use them.

Regional Laboratories : A Model for Educational Regionalism

In a nation as vast as the U.S., regional biases are accepted political and social realities, and they are based on geographical, economic and historical factors as well. Recognizing the legitimacy of special interests and the fact that particular kinds of problems are pervasive in some regions and

not in others, the U.S. Office of Education in 1966 established a score of educational research and development laboratories in regional settings across the country. Much of the important curriculum development undertaken in the last decade has resulted from the creation of these regional laboratories, although some labs have been much more visible (and on the whole, more succesful) than others. The criteria for success have, of course, been different in each region, since the problem universe of each laboratory has been directly related to educational matters of particular significance for the region. An example is the development work of the Southwestern Cooperative Educational Laboratory in Albuquerque, New Mexico, which specialized in programs for preparing young children from non-English speaking-communities for entry without disadvantage into regular public schools. It began with the development of several models, or variations, on a basic "oral language" program, testing these models in large numbers of school districts throughout the Southwest. The program included teachers' manuals with behavioral objectives, other materials, and a complete in-service training package. The laboratory was also concerned to provide trained personnel to monitor the processes of implementation of this innovative language arts program in school settings.

Such regional laboratories have provided several years of research and development (R & D) experience which has been useful in conceptualizing the National Institute of Education itself as a research and development agency. One of the problems with regional work has been the lack of dissemination of findings and materials to other regions, and to other schools outside of a particular laboratory's immediate research concern. It is anticipated that, as a national center, the Institute can establish mechanisms and encourage practices which will insure wider dissemination of well-

developed and tested methods and materials, no matter where these originate.

Fifty Separate State Educational Systems: Models of Individuality

Though government agencies exist at the federal level to facilitate educational development throughout the nation, it is incumbent upon each state to educate its citizens. Different states exercise different degrees and kinds of control over the educational process. Hawaii, for example, is the most prescriptive of all the states on educational issues, because its educational system has been highly centralized from its beginning. Other states prescribe only minimum curriculum standards in specific content areas and leave other educational decision-making to local school districts.

Though the decentralized nature of U.S. education has thus resulted in considerable variation from state to state in what is taught, how it may be taught, and what standards of student performance are considered satisfactory, there are other influences at work which tend to reduce differences. One such influence is the use of nationally standardized achievement tests for career guidance and for acceptance into colleges and universities. Though such tests do not automatically determine career choices nor necessarily exclude a student from the college he wishes to attend, all states seek to maintain standards of excellence in secondary education which will make their students acceptable to institutions of higher learning in other states.

As noted in response to the questionnaire earlier in this study, the states differ also in the financial support which they offer to local school districts, although average state aid amounts to about 50 percent of separate school budgets. Some states extend financial aid even to sectarian or other non-public schools, for such cost items as bus transportation.

Most states administer funds, set curricular standards, certify teachers,

and provide services to schools through a department of education within state government, but within broad guidelines, allow local communities a high degree of autonomy in educational decision-making.

Local School Districts: Models of Community Autonomy

Individual schools in individual school districts are ultimately the proving ground for education, whether that education is traditional or innovative. Since at least 50 percent of school funds are raised by local taxes on real estate, citizens of each community have historically felt a sense of ownership in the operations of local schools. They exercise this "ownership" indirectly through representatives which they elect to local school boards, directly through parent-teacher organizations, in public meetings during which school issues are discussed, and in volunteer work to assist teachers or administrators with special projects. The direction which school boards give to local school administrators is indicated in the organizational chart (typical of municipal school systems) shown in Figure 12.

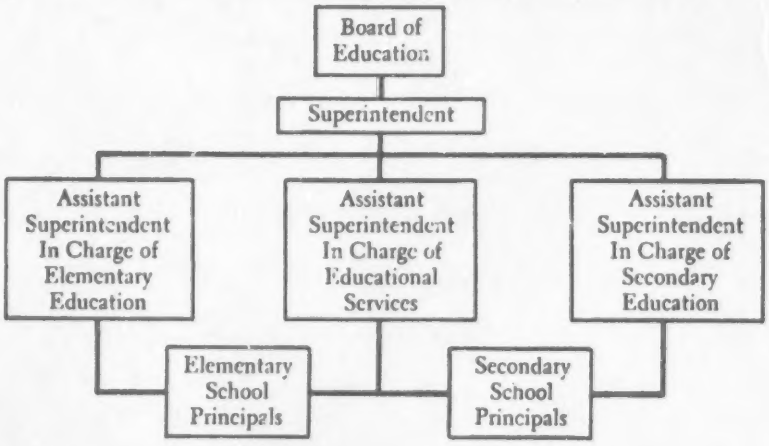

Board of Education
Superintendent
Assistant Superintendent In Charge of Elementary Education
Assistant Superintendent In Charge of Educational Services
Assistant Superintendent In Charge of Secondary Education
Elementary School Principals
Secondary School Principals

Figure 12: Relationships Between School Boards and Administrators

(Source: Raymond H. Ostrander and Ray C. Dethy. A Values Approach to Educational Administration. New York: American Book Co., 1968, p. 113)

The influence of community sentiment is not only potential but is also actualized; voters in school districts can defeat school budgets, decide on pay scales and other working conditions for teachers, and force districts to add or to remove controversial subjects from school urricula (e.g., sex or drug abuse education).

It is also true, however, that U.S. Americans have considerable faith in the social and economic worth of education and are willing to make sacrifieces to see that the nation's youth are as well-prepared to face adult life as the nation's schools can make them. Just what kinds of preparation are most helpful may be open to disagreement and discussion, but there is no question at all that residents of the U.S. tend to look to education for the ultimate solutions to a wide variety of human problems.

Curriculum Development : Styles and Models

A very long tradition of local control of schools in the United States often carries with it a public conviction that all curriculum development should be initiated at the local level and directed toward improving local curricular offerings. There is strong feeling also among educators that school personnel who are closest to the learners -- i.e., teachers, school curriculum specialists, and school administrators -- are the appropriate leaders of development efforts, even if outside experts are also involved. Inlow (1973) suggests that the functions of local leadership are as follows:

1. Motivating interest
2. Encouraging participation
3. Arbitrating differences
4. Synthesizing points of view
5. Identifying common goals

6. Capitalizing on professional differences: encouraging a professional faculty to keep scholars within the framework of school realities; the scholars to extend the conceptual horizons of a professional faculty; and lay personnel to refine the contributions of both
7. Converting sub-group separateness into total-group unity.
8. Effecting the translation of abstract considerations into concrete proposals, leading ultimately to a final operational plan
9. Organizing and administering an in-service program to ready operational personnel for their intended roles and tasks
10. Assuring that materials of instruction are prepared, available and properly disseminated (p. 50).

What is obvious from this and similar quotations is that curriculum development is most often viewed in the United States as a school-by-school initiative and responsibility, rather than a national undertaking. What happens at the national level in research and development diffusely influences schools and school practices, but local curriculum efforts are brought directly to bear on the problems of teaching/learning as they develop in particular communities.

It is largely as a result of this tradition and context of local decision-making that the issue of student participation in curriculum planning has arisen. Educators in the U.S. are by no means unanimous in their opinions concerning the nature (and even concerning the validity) of student involvement. The students themselves, however, are increasingly vocal about their right to be heard and their right to influence decisions on curriculum issues.

The broader the representation of various interest groups among curriculum developers, the more immediate is the recognition that diversity can be either a strength or a weakness. If divergent views cannot be safely expressed and submitted to group resolution, then groups which are composed of educators, scholars, lay citizens, students, social scientists, and others are doomed to failure. If, however, such groups are enabled to perform their development tasks in an atmosphere of mutual respect and cooperation, then the diversity of the group will tend to produce especially well-conceived and workable curricular innovations. Research findings concerning the bases of interpersonal relationships and the principles of group dynamics have contributed significantly to the development of techniques for working democratically and effectively in heterogeneous groups. In connection with extensive curriculum development projects, working groups are sometimes given explicit training in interpersonal techniques before they are asked to apply their energies and insights to curricular problem-solving.

As a result of U.S. experience in human relations training and action-research technology, the concept of school staff development has taken on added social dimensions. Though what is typically called "staff development" involves the preparation of school personnel to assume new roles and perform new tasks, it has also begun recently to involve the training of staff to work interdependently with other staff, with students, and with representatives from the community, as well as to evaluate their own effectiveness as the work progresses.

Three major trends -- the progressive democratization of schools, the emphasis on local educational initiatives, and the development of human relations training -- have reaffirmed the philosophical commitment of U.S.

educators to "grass-roots" values, fact-finding, and decision-making. This commitment does not deny a role to federal, regional, and state educational agencies, but it reveals the conviction that such agencies exist primarily to assist local school systems to work out their own special curriculum development problems, rather than to impose upon these systems a national curriculum pattern and compulsory reform.

Another recent development -- the demand that schools and school personnel shall be held accountable for the success of the educational process -- has given impetus to the search for learning materials and methods which can lead to predictable educational outcomes. The development of programmed instruction and other means of individualizing the learning experience, as well as the setting of specific performance standards (i.e., specification of what levels of performance are acceptable and/or constitute "mastery" of content or skills) have heralded the new era of technology in U.S. education. Though critics may suspect that dehumanization attends these technological innovations, the intent is quite the opposite: technology is invoked to develop each student to his fullest potential. The charge that applications of technology have up to this point concentrated on the most easily measurable and least socially sensitive skills may be accurate, but there are signs that technological devices and modes of thinking are becoming usefully integrated even in curriculum planning which takes great care to develop humanistic aspects of education.

Curriculum Development Theory and Conceptual Model Building

In the U.S., the concept of curriculum has itself undergone a rather thorough transformation. No longer defined as a set of prescribed courses of study, "the curriculum" is now more typically identified with the complete set of planned learning experiences which are systematically made available

to learners in the school setting or elsewhere under the supervision of the school. Curriculum development has become, therefore, a much more detailed blueprinting of educational theory and practice for individual schools. Some theorists include even the "hidden" curriculum, i.e., learning experiennes which are either wholly unintentional or not overtly planned, in their analyses of what curriculum development must take into account.

Macdonald (1965) has described curriculum, instruction, teaching, and learning as four related and overlapping systems which dynamically interact. He suggests that teaching and learning, taken separately, are fundamentally personality systems and that, taken together, teaching and learning become instruction -- a social system. The fourth system, curriculum, is also a social system, composed of individuals whose task is to produce curriculum. Macdonald's concept of dynamic interaction in curriculum development is an early recognition of the complexity of the development process and the number of behavioral and structural components which must be involved in production of a feasible curriculum plan.

Most curriculum theorists have made the initiation of implementation phases the dividing line between curriculum and instruction, but Taba (1962) has proposed that the greater generality of curriculum plans are their distinguishing feature. Instruction, in her view, lies at the specific end of a continuum between curriculum and instruction.

These and similar concepts have not proved definitive nor provided a basis for consensus in curriculum development theory, but they have served to stimulate discussion and to clarify many crucial aspects of the development process.

Well known curriculum development models have all related activity at

the school district or individual school levels. Curriculum development in school settings consists of three essential process : curriculum construction, curriculum implementation and evaluation. At their best, these processes themselves constitute a dynamic unity rather than a series of discrete steps. Several parts of each process may be going on simultaneously.

Several prototype models for devising curriculum change have become reasonably conventional in the United States over the past few years. Smith, Stanley, and Shores (1957) have identified these as administrative, grass-roots, and demonstration modes of curriculum development. Since these are prototypes, they are often combined in a variety of ways which seem to fit particular local situations. But these are not the only models available. Some interesting variations include interpersonal relations, action-research, behavioral analysis, and computer-based models.

None of these curriculum change models is absolutely distinct from the others, but there are unique characteristics which help to distinguish each, as the following description indicates.

The Administrative Model

The "top-down" administrative model is the oldest and most traditional, with a top administrator serving as initiator, committee appointer, and general director of the curriculum development project. A school or district superintendent may be the administrator who assumes this responsibility. Initial planning is done with other administrative staff, often after securing school board approval of the goal for the proposed change. A next step is the involvement of teachers, and in some cases, lay advisors. At this stage, more detailed planning begins, but actual construction of the curriculum is most often delegated to the teachers of the grade level or

subject matter under consideration.

Upon completion of their task, the teachers submit the curriculum documents for administrative review and revision as thought necessary. Once the written documents are in final form, the directing administrator appoints another committee to implement it in selected classrooms. After these trials are made, futher revisions may take place in committee before school or district-wide implementation is undertaken.

This process is not only undemocratic, but relatively ineffective in producing real change. A major weakness is its assumption that curriculum development occurs in two separate phases -- construction and implementation. Studies in the nature of change processes show that change does not readily occur just because it is a logical next step or because it has been mandated. People involved in the change need time to develop interest in and commitment to it. Neither of these conditions is provided for in the administrative model -- yet it is still widely used.

The Grass-roots Model

In this model, which contrasts most sharply with the administrative model, teachers themselves may initiate change, working together in a team fashion to solve curriculum problems in a subject area or a group of classrooms. The intimate involvement of the same teachers in both planning and implementation bridges the chasm produced by the "two-phase" concept of curriculum development (characteristic of the administrative model) and insures that these teachers will be interested in the planning and eager to see its results.

Students, parents, and other members of the community may also participate in planning groups at the grass-roots level. Critics of this model of curriculum development tend to doubt whether teachers, administrators,

curriculum specialists, students and other non-professionals can successfully play equivalent roles as curriculum developers. Others feel that it is entirely appropriate that all these groups should be involved, but not necessarily at all stages in the development process or performing the same tasks. A recognized strength of the model is the generation of ideas from many different perspectives, and the avoidance of too narrowly conceived goals and objectives. Another perceived advantage is a predictable increase in competence of all group members as they seek to solve problems cooperatively. Smith, Stanley and Shores (1957) have stated that curriculum will improve only as the professional competence of teachers improves, and participation in grass-roots curriculum change processes markedly improves teachers' understanding and use of the products developed.

The frequently cited disadvantage of the grass-roots model is that technical expertise may be sacrificed to the ideal of democratic participatory planning and decision-making. Proponents counter this charge with the reminder that each participant has contributions to make, and that technical skill in curriculum development is not necessarily more valuable than the skill of the teacher who can anticipate realistically the problems that may arise in implementation, or the skill of the lay citizen, who may have special information about the relationship of the curriculum to the world of work.

The Demonstration Model

Small scale innovations have the merit of introducing important changes in the curriculum without completely disrupting normal procedures throughout the school sytem. Such pilot curriculum development projects may be either formally or informally initiated, by interested administrators or by teachers

themselves. The objective is to demonstrate the effectiveness of a proposed change before an entire school or school district is asked to accept it.

The advantages of the demonstration model of curriculum development are obvious: the changes desired are proved to be workable, potential resistance of school staff to subsequent change is reduced, and planning/implementation cycles are intimately related in time and locus. There is, however, a danger that the teachers involved in the demonstration work will be viewed by their peers as "outsiders" by virtue of their innovative roles and priveleged information, making the entire demonstration project suspect along with its personnel. This particular danger can be mitigated if the demonstration unit is enabled to communicate openly and frequently with other school faculty, as well as with parents, students, and interested community members concerning the progress and merits of the innovation.

The problems inherent in each of the prototypical models cited above are joined with a problem common to all -- their lack of provision for adequate empirical testing of the resulting curriculum products. Gaps between theory and practice are not closed; validity of particular innovative measures may not be established for a wide range of classrooms operating under varied conditions. The new curriculum may not be "teachable" in the empirical sense, or may fail over an extended period to achieve the desired results.

The Interpersonal Relations Model

Based on insights and evidence gleaned from research in applied behavioral science, the interpersonal relations model focuses on "people change." It represents a conviction that problem-solving processes depend for their success on the development of individuals who are flexible and open to change, and who can themselves influence others to welcome innovation and personal

growth experiences in their lives. Curriculum development, in the strictest sense of the interpersonal relations model, proceeds by way of the development of improved self-knowledge and interpersonal communication, which in turn creates a climate of mutual trust and respect which is conducive to cooperative task performance.

Procedurally, a development task force or committee is selected and asked to participate in a training ("T") or encounter experience, in the company of a skilled group facilitator and in a setting away from the school or school district which is the target for curriculum change. The training may be conducted on successive weekends or week-long retreats. One of the primary outcomes of such human relations training groups is participants' increased ability to listen carefully to what others are saying and development of genuine respect for different points of view.

The curriculum development group utilizing this model may actually start out as three or four separate groups -- administrators alone, teachers alone, parents and/or students alone. The goal, however, is to integrate these groups (or selected members from each of them) into a single working unit.

Some advantages of group training experiences occurring prior to or simultaneously with curriculum development work are easily recognized. But proponents of this model are not explicit about the bases for decision-making and as a result, questions are raised about the reliability of the data used to influence curriculum change. In fact, many modifications on the original model have been made over the years since its introduction, the most notable of which may be the combination of interpersonal relations training and action-research.

The Action-Research Model

Action-research approaches to curriculum development assume that curriculum change is social change, and that persons engaged in such development activities are social change agents. Their responsibility, in this interpretation, is to society as a whole as well as to the school systems they represent. Individual personalities, school organizational structures, patterns of social interaction within the school and community outside the school, are all concerns of the action-research team. Each sector of the society in which the school is embedded has its own ideas and expectations concerning the process of education, the roles of educators, and the performance of students. Action-research involves the design of mechanisms (1) for assessing the nature of these ideas and expectations, (2) for incorporating this data in the steps taken toward curriculum change, and (3) for facilitating constant feedback processes from developers to constituents and back to developers again.

The action-research model is deliberately cyclical, based on continuous data collection and evaluation, continuous planning, and continuous implementation. Decision processes are invoked step-by-step, rather than far in advance of implementation procedures, and in this fashion are made responsive to the most current data available. Procedural shifts can be quickly made, and restraining as well as facilitating forces can be promptly identified and avoided or accomodated as the development work proceeds.

As in laboratory research, the action-research approach to investigation is relatively unbiased as to exact direction, and outcomes are not strictly prescribed. The aim, however, is immediate change -- i.e., immediate applications of the empirical knowledge which develops along side of

the action-research. This empiricism does not depend on controlled experimentation as in basic research, but it has the advantage of immediate usefulness. It should be noted that the study of change -- in and of itself -- is productive of change. Action-research therefore moves in the direction of change long before concrete curriculum products are devised.

The dynamic concepts and processes inherent in the action-research model depend on intellectual and social growth of developers and constituents alike. In this respect, it is a difficult model to follow, though the rewards of doing so are potentially great.

The Behavior Analysis Model

Essentially, this model depends upon behavior observation and minute description of tasks and elements of tasks performed. When this analysis and description is complete, instructional sequences are designed to guide students through component steps toward the desired complex task performances. The model assumes that behaviors can be gradually shaped toward specified needs. The use of this model is most common in psychomotor skill training, although aspects of behavioral analysis enter into the data collection phase of a number of other curriculum development models.

The Computer-Based Model

Individualization of instruction is the goal of curriculum development which is based on computer analysis of student strengths and weaknesses and automatic presentation of appropriate learning materials to reinforce strengths and overcome weaknesses. Although prototype designs of this model exist, common use is not expected in the near future -- in part because of computer costs and in part because it is difficult to decide what data yields the most relevant computer "prescriptions" for learning.

The Systems Analysis Model

What is possible but perhaps rarely accomplished through use of the systems analysis model is an effective amalgamation of methods and structures from other models in the accomplishment of curriculum change. Though the model is basically production-oriented, with input, transformational throughput, and output components, it is highly flexible and potentially useful over a broad range of curriculum development efforts. Systems analysis is as workable a model for curriculum change at the national level as at the local level, for the basic methodologies involved are context-free. Systems techniques are, however, applied directly to analysis and understanding of whatever contexts are relevant to the particular curriculum improvements sought. Needs are assessed, desired outcomes decided upon and prioritized, potential resources are catalogued, and appropriate operational and change strategies are selected. Evaluative mechanisms are an intrinsic part of systems design, and assessment and decision points are regularly specified. The typical systems-analytic model is a linear input-throughput/transformation-output, or *production* system or set of systems, but numerous variations have been and continue to be developed as occasions warrant. Many of the newer systems models are essentially non-linear and highly dynamic. Nevertheless, the basic components of the systems approach to curriculum and other educational decision-making are consistently present, as represented in Figure 13, no matter what their arrangement.

The systems approach to educational problem-solving is perhaps the fastest-growing of the newer curriculum development models in the United States, since it is responsive to multi-variate considerations and requires clearly defined goal statements prior to the initiation of costly development

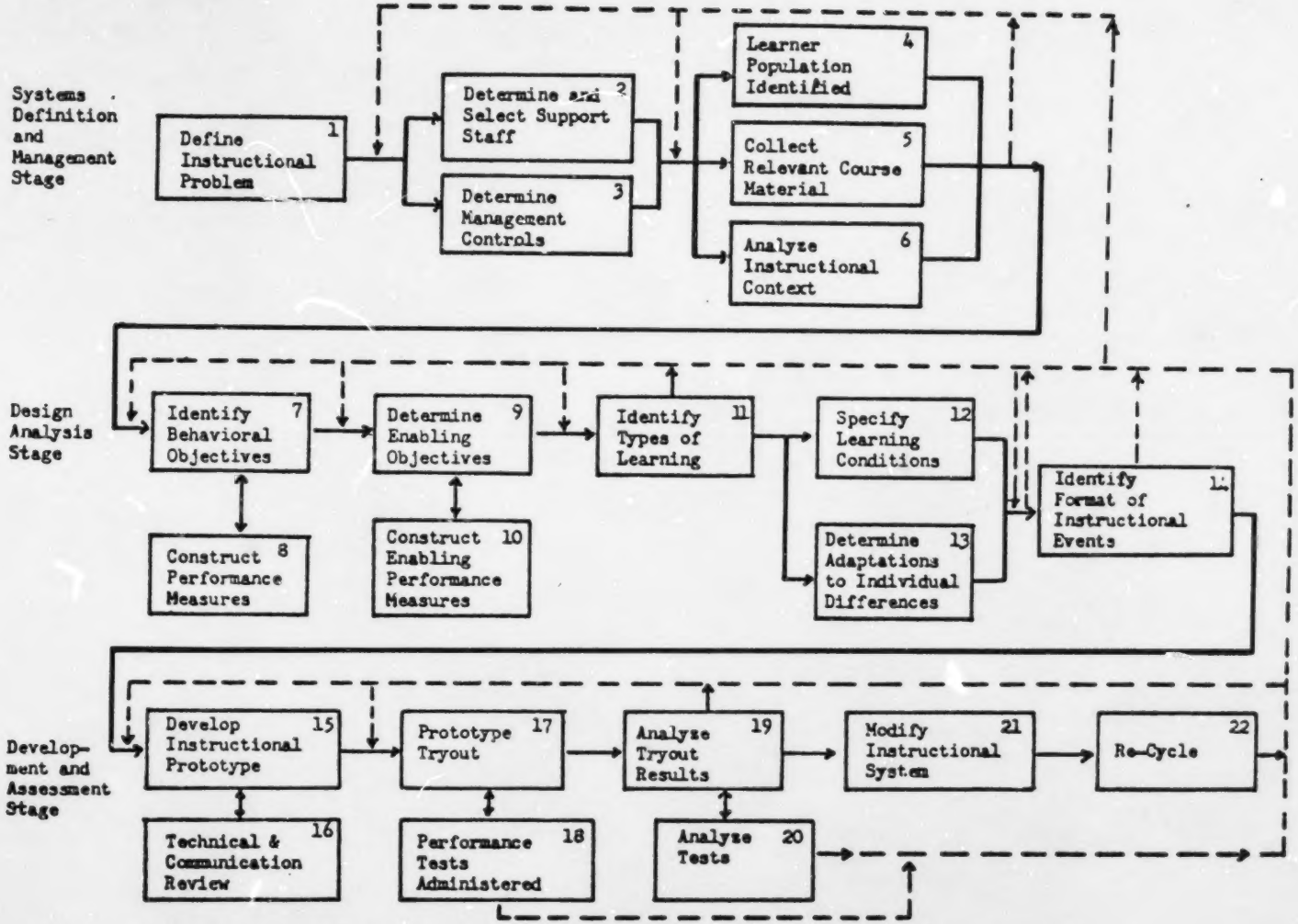

Systems Definition and Management Stage
Define Instructional Problem 1
Determine and Select Support Staff 2
Determine Management Controls 3
Learner Population Identified 4
Collect Relevant Course Material 5
Analyze Instructional Context 6
Design Analysis Stage
Identify Behavioral Objectives 7
Construct Performance Measures 8
Determine Enabling Objectives 9
Construct Enabling Performance Measures 10
Identify Types of Learning 11
Specify Learning Conditions 12
Determine Adaptations to Individual Differences 13
Identify Format of Instructional Events 14
Development and Assessment Stage
Develop Instructional Prototype 15
Technical & Communication Review 16
Prototype Tryout 17
Performance Tests Administered 18
Analyze Tryout Results 19
Analyze Tests 20
Modify Instructional System 21
Re-Cycle 22

Figure 13: A Flow Diagram Showing Steps in Instructional Development

(Source: Dale G. Hamreus, "The Systems Approach to Instructional Development", The Contribution of Behavioral Science to Instructional Technology : A Resource Book for Media Specialists. p. I-20.

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activity. It "maps" the destination and the possible routes which can be taken to reach it, and marshalls the resources which are needed. Carefully used, it is a powerful development tool. A dynamic four-phase model of educational innovation and implementation is shown in Figure 14.

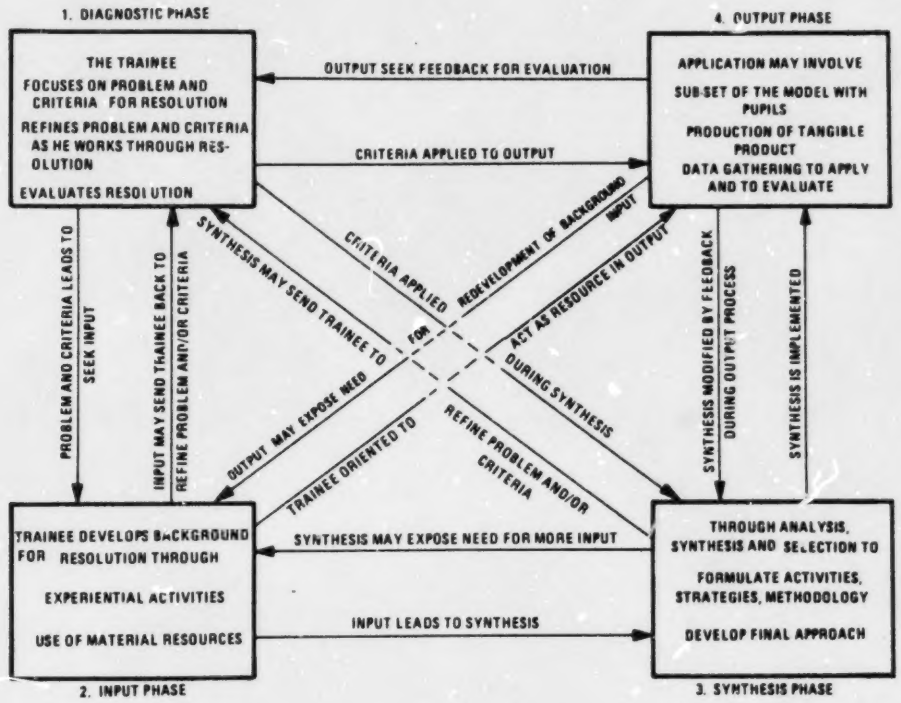
1. DIAGNOSTIC PHASE
THE TRAINEE
FOCUSES ON PROBLEM AND CRITERIA FOR RESOLUTION
REFINES PROBLEM AND CRITERIA AS HE WORKS THROUGH RESOLUTION
EVALUATES RESOLUTION
4. OUTPUT PHASE
APPLICATION MAY INVOLVE
SUB-SET OF THE MODEL WITH PUPILS
PRODUCTION OF TANGIBLE PRODUCT
DATA GATHERING TO APPLY AND TO EVALUATE
OUTPUT SEEK FEEDBACK FOR EVALUATION
CRITERIA APPLIED TO OUTPUT
PROBLEM AND CRITERIA LEADS TO SEEK INPUT
INPUT MAY SEND TRAINEE BACK TO REFINE PROBLEM AND/OR CRITERIA
SYNTHESIS MAY SEND TRAINEE TO
CRITERIA APPLIED
REDEVELOPMENT OF BACKGROUND INPUT
ACT AS RESOURCE IN OUTPUT
FOR
DURING SYNTHESIS
OUTPUT MAY EXPOSE NEED
TRAINEE ORIENTED TO
REFINE PROBLEM AND/OR CRITERIA
SYNTHESIS MODIFIED BY FEEDBACK DURING OUTPUT PROCESS
SYNTHESIS IS IMPLEMENTED
TRAINEE DEVELOPS BACKGROUND FOR RESOLUTION THROUGH
EXPERIENTIAL ACTIVITIES
USE OF MATERIAL RESOURCES
SYNTHESIS MAY EXPOSE NEED FOR MORE INPUT
INPUT LEADS TO SYNTHESIS
THROUGH ANALYSIS, SYNTHESIS AND SELECTION TO
FORMULATE ACTIVITIES, STRATEGIES, METHODOLOGY
DEVELOP FINAL APPROACH
2. INPUT PHASE
3. SYNTHESIS PHASE

Figure 14 : Implementation in Developing Countries

Source: Taher A. Razik. Systems Approach to Teacher Training and Curriculum Development : The Case of Developing Countries. Paris : UNESCO International Institute for Educational Planning, 1972, p. 129.

Some of the disadvantages of the systems analytic model are the shortage of personnel trained in its use, the dangers of oversimplification, and the possibility that a passion for elegant systems designs may obscure crucial omissions or miscalculations. Systems analytic techniques, like the methodologies characteristic of other models, are only tools, subject to human

error despite their scientific conceptualization and intent.

The Role of Staff Development in Curriculum Change

The variety of models available in the U.S. for curriculum change projects has contributed to recognition of a pressing need for continuous staff development. School personnel must be trained to use one or several different sets of development techniques, if their attempts to construct new curriculum are to be even minimally successful.

With the grass-roots emphasis visible to some extent in virtually all of the models cited, the logical targets of pre-service and in-service training are classroom teachers, school curriculum specialists, and administrators. There are differing perceptions as to the degrees of expertise these three levels of personnel should be expected to acquire, but few observers of the U.S. educational scene would argue the fact that at all three levels, there is need for better preparation to perform curriculum development tasks.

As teachers' associations and unions have achieved greater negotiating power in U.S. school systems, teachers have repeatedly expressed general and specific staff development needs. Changing societies themselves present new challenges which school staffs often feel unprepared to meet -- e.g., the development of curriculum for drug abuse education, environmental studies, urban problem-solving, etc.

The planning of staff development is complex. Existing mechanisms for in-service training are typically unequal to the task of organizing development on a broad and continuing basis. Training efforts are often "hit or miss," based on immediately perceived needs or on superficial assessments of the kinds of skills which may be useful in the near future. Systematic planning for staff development as an integral part of curricular and instructional

innovation is a relatively new idea, rarely well conceived and implemented.

Yet the need for continuing education which develops the abilities of school staff and adds new skills to their repertoire is unquestioned. Bishop (1976) has proposed that staff development activity should be incorporated as a sub-system of the school or school district organization, with appropriate budget, resource, and personnel allocations with which to operationalize comprehensive training designs.

Value orientations, personal and professional growth objectives, and preparation for specific task performance are all legitimate concerns of staff development. As experience accumulates in this new field, staff developers are more and more convinced that curriculum change depends to an appreciable extent on a successful integration and balance of these concerns. Staff development and in-service training are no longer interchangeable concepts; for staff development efforts imply a systems approach, a social scientific understanding of the way persons and organizational systems interact, and a set of planned procedures and prioritized outcomes.

Figure 15 presents a graphic representation of the contextual elements of curriculum/instructional design, from the perspective of the staff development planner. Figure 16 identifies sources of internal and external pressures which should not only be considered but also incorporated indirectly in the planning of staff development strategies, content, and materials.

Throughout the planning and implementation of staff development, analysis and assessment play critical roles. Delineation of roles and tasks help to clarify responsibilities of different levels of personnel and to

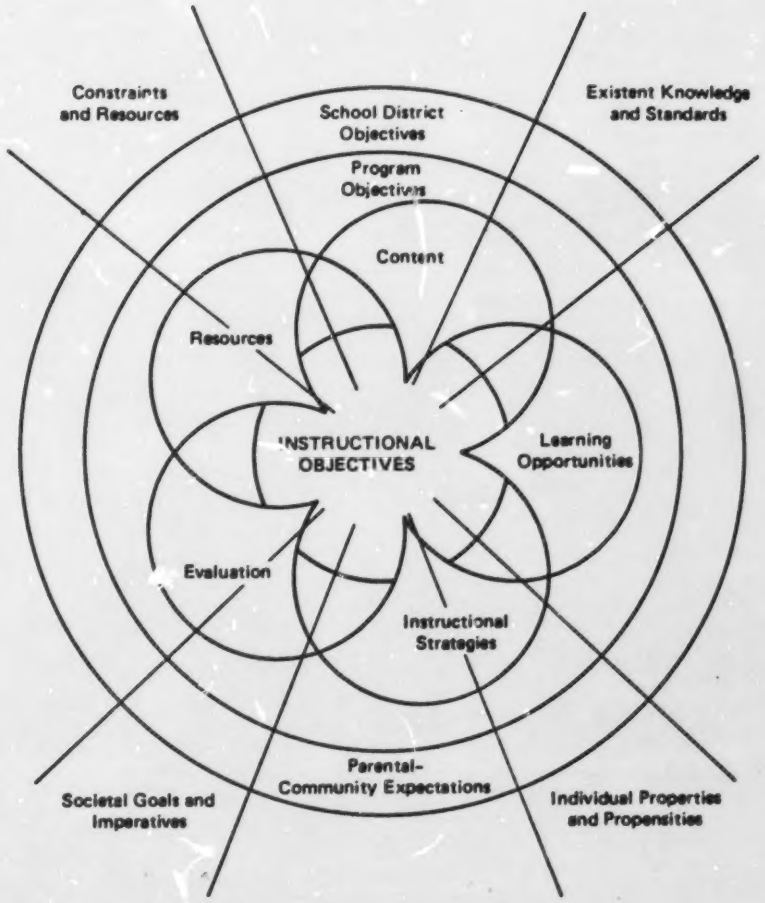

Figure 15 : Objectives -- Focal Point for Planning

(Source: Leslee J. Bishop. Staff Development and Instructional Improvement. Boston: Allyn and Bacon, 1976. p. 100.)

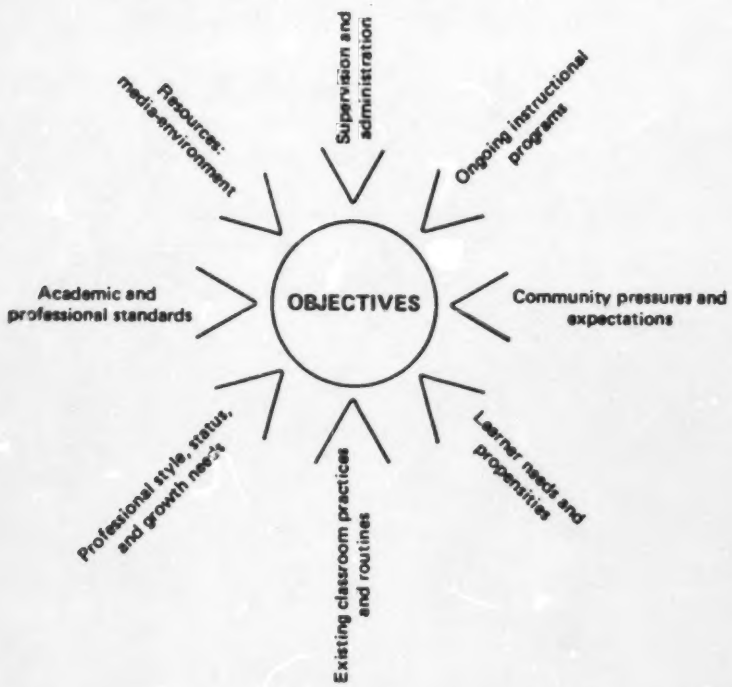

Figure 16: The Force Field -- Influences on Curriculum Development
(Source: Bishop, 1976, p. 134)

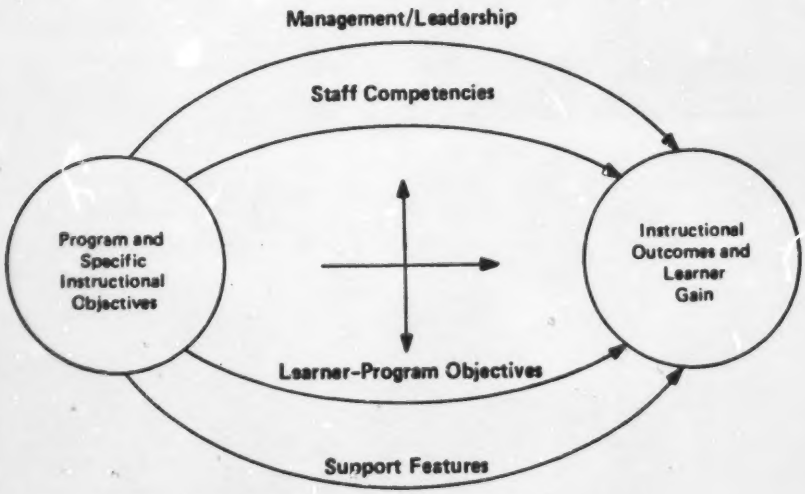

Figure 17 : Basic Elements in an Instructional Improvement-Staff Development Plan.
(Source: Bishop, 1976, p. 196)

identify training needs. Public understanding of and commitment to staff development must be secured, since in the U.S., local school budgets are of immediate concern to the citizens of the community who must provide a substantial part of the necessary funds.

Figure 17 is an explicit representation of the two-fold process of educational change as Bishop conceptualizes it, with staff competencies developing simultaneously with the attainment of learner-program objectives. A comparison of the planning responsibilities which are connected with curriculum/instructional change and staff development appears in Figures 18 and 19. In each case, the design and management considerations are nearly identical, showing the clone relationship of the two change processes.

An immediate advantage of comprehensive staff development planning is that a better understanding of role relationships among participants in training is developed. Social hierarchies assume less rigidity at the same time that differentiated roles and functions are preserved, as system-wide personnel skills and communication practices improve.

The U.S.A. has made many pioneer contributions to the conceptualization of staff development as a formal subsystem of educational institutions, but public understanding and willingness to fund this subsystem on a continuation basis lags far behind the technological and conceptual developments which make staff training reforms feasible. The installation of staff development programs is sporadic and rarely comprehensive, although need for such programs is easily demonstrated by even the most cursory survey research.

The Use Problems in Educational Research and Development

Dissemination of research findings and tested materials to local

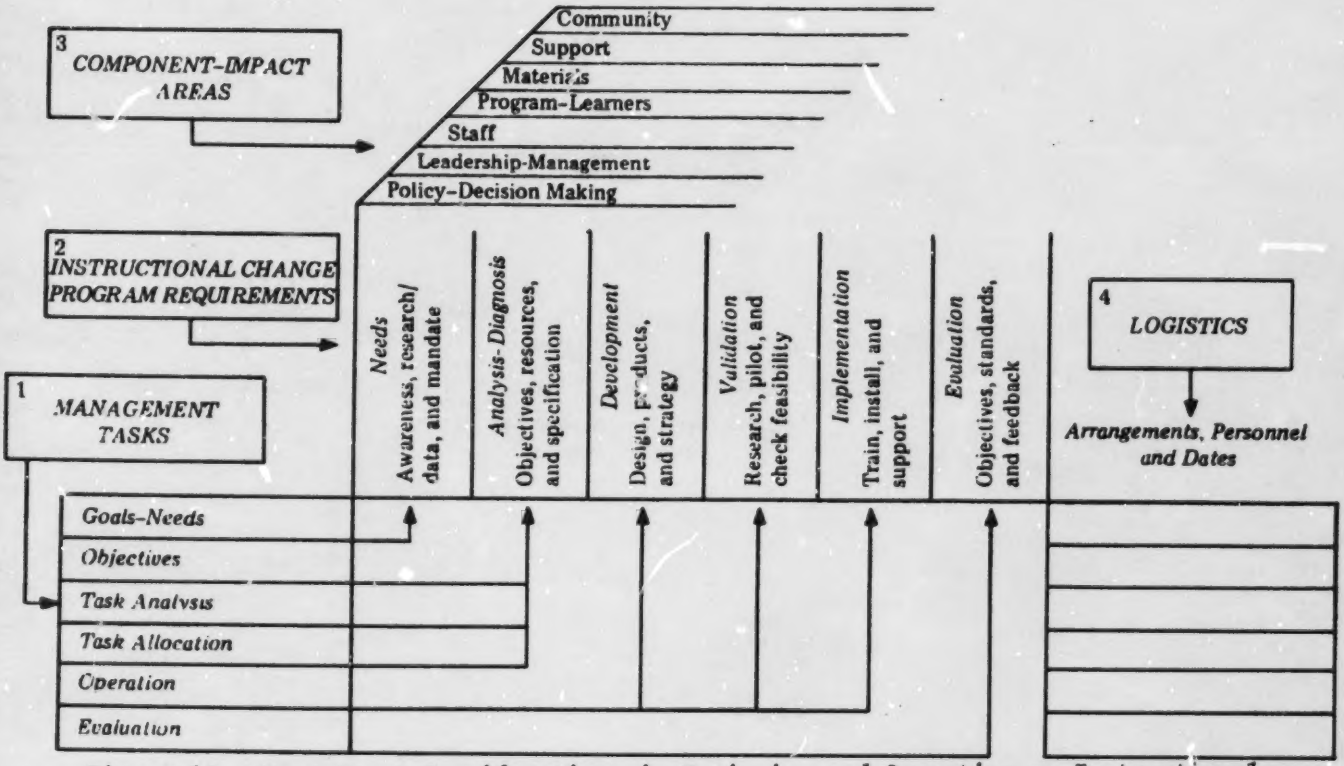

Figure 18: Management Considerations in Designing and Operating an Instructional Change Program.
(Source: Bishop, 1976, p. 198)

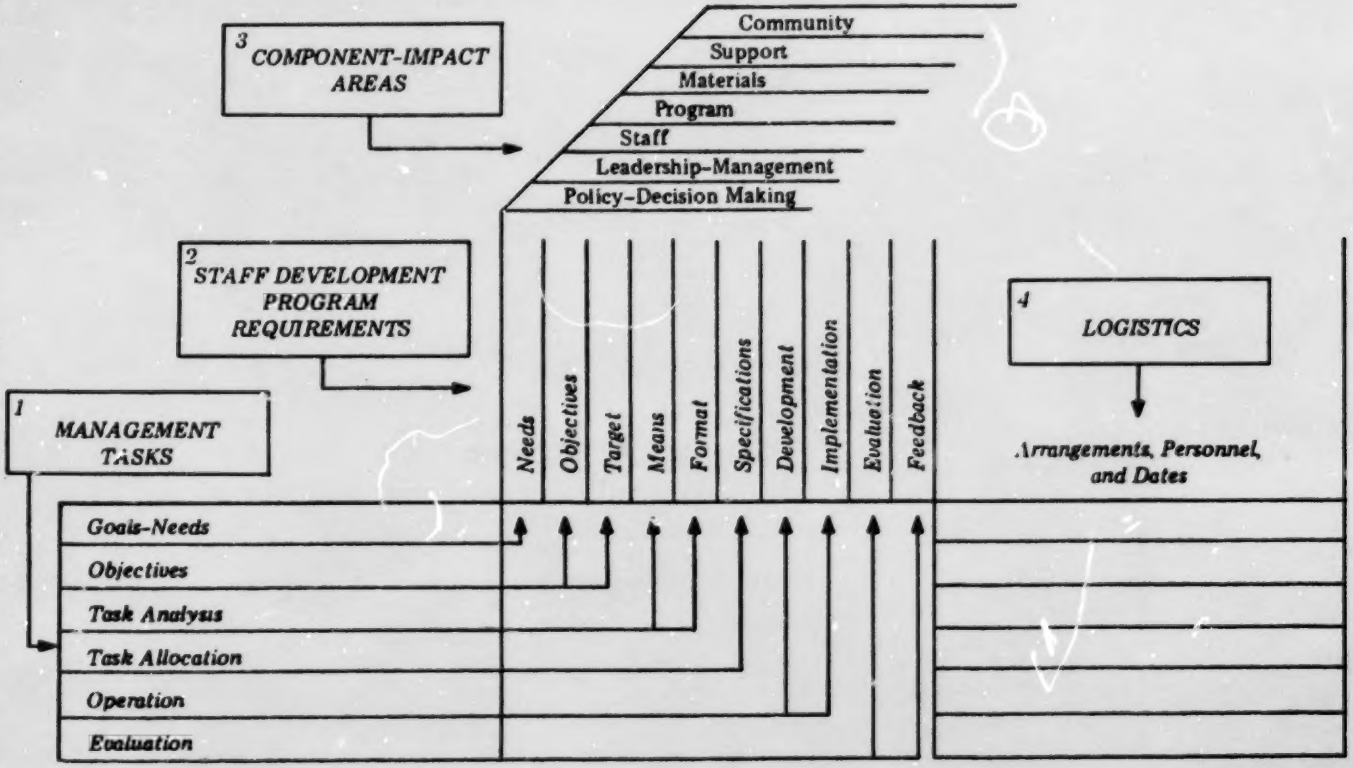

Figure 19: Management Considerations in Designing and Operating a Staff Development Program

(Source: Bishop, 1976, p. 199)

school systems and encouragement of their appropriate use is a persistent problem in educational developments throughout the world. Despite its networks of R & D Centers, Regional Laboratories, State agencies which fund educational research, and in-school curriculum research and development projects, the U.S. effort to utilize research remains largely uncoordinated and scattered.

Havelock (1970) has identified three distinct models or orientations toward knowledge utilization: the research, and development and dissemination -- or diffusion model (RD & D), the social interaction model, and the problem-solving model.

The first of these, RD & D, is what Havelock has termed a "grand strategy" for planned innovation, a systematic development of curriculum/instructional prototypes, field testing, and packaging in easily used forms. The Regional Laboratories exemplify the RD & D approach, which assumes a rational sequence from research to dissemination and aims at high-performance product development.

Research supporting the Social Interaction Model suggests that diffusion of innovations are dependent upon these variables: (1) the individual user or adopter belongs to a network of social relations which tend to influence his adoption behavior, (2) the position (central, peripheral, or isolated) which the adopter occupies in these social networks are good predictors of the rate at which he will accept new ideas, (3) informal personal contacts are influential in the adoption process, (4) membership in and identification with particular reference groups tends to decide preferences for or against adoption, and (5) the rate of diffusion through social systems is slow in the beginning, becomes very rapid, and then slows again. Characteristics of senders and receivers

and interaction patterns among them are viewed in this model as the most critical factors in the utilization or non-utilization of new ideas and products.

The third model -- Problem-Solving -- is based on the assumption that user systems (i.e., schools and other educational institutions, or even individual students) are themselves creators of the change process. Their needs are translated into problems, which are internally analyzed and diagnosed. A knowledge search is the next step, in which the user tries to discover or retrieve information that will help him solve his problem. The Problem-Solving Model is represented by Havelock as essentially a self-help proposition, although outside resources may be used if they are known to be available.

When such external assistance is sought, linkages are established both to the closest problem-solving resoures and, through these, to more remote resource systems. Figure 20 illustrates the nature of such a user system-resource system linkage. In order to make this linkage effective, the user must understand how the resource person or system operator, and

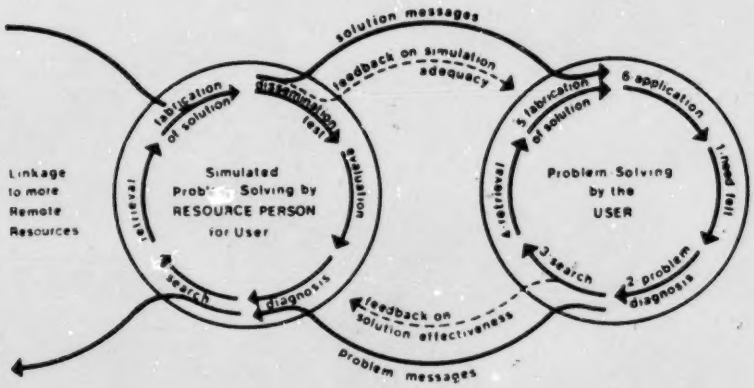

Figure 20: The Linkage Process
(Source: Ronald G. Havelock. "The Utilization of Educational Research and Development," in Curriculum Innovation. Ed. A. Harris, M, Lawn, and W. Prescott. New York: Wiley, 1975, p. 319)

the resource system must be able to put itself imaginatively in the user's place, to derive a model problem solution. Communication lines must be open and operative.

Both the RD & D and the Problem-Solving Models make the assumption that a rational division of labor is necessary if innovations are to be made high in quality and predictable in influence, with high frequencies of use. Such innovations -- fully developed, fully evaluated and ready for installation -- are plentiful even in a nation that has given considerable support to research in education.

Linking such agencies as university-based regional development centers with user or "client" systems is not an overnight accomplishment. Cooperative relationships are built over time, as specific successful projects of the centers generate awareness that curriculum and other development help is available.

Summary

The U.S. while maintaining steadfastly its policies of educational decentralization, is also creating structures which are expected to provide an overview of the development of education nationwide, and to pinpoint the particular areas of curriculum, staff development, organizational character, and other school concerns which are most troublesome and most in need of a concerted change effort. This provision for a stronger central coordination of research and development is most evident in the origination five years ago of the National Institute of Education, which quite frankly assumes that schools are not only information processors, but adaptive political systems and social communities as well. With this modern perspective on schooling, the bases are widened for both basic and applied

research, and the social sciences research emphasis is strident.

There is a growing insistence that research and evaluation are not identical; that the first demands a rigor not necessary in the latter. Operationally, this means that while research need not always be experimental in the sense of laboratory conditions and controls, it must be much more sophisticated and carefully designed, particularly as an integral part of RD & D systems. Research findings, no matter how important, which are scattered, difficult to retrieve, unpublished beyond limited geographical areas, or unaccompanied by clear-cut application procedures are virtually useless to the educational community at large.

What is becoming more and more imperative is that linkage systems between research and applications shall be set in place and enabled to translate needs analyses from user systems into research problems and translate research findings back into practical usage in the client systems (schools).

An upgrading of research does not imply a down-grading of evaluation. Ethnographic study, for example, may involve both aspects, though ethnographic evaluation is likely to be more *immediately* useful than research based on ethnographic data. In other words, evaluative observations, small scale statistical comparisons, and continuous assessment, on-site, of curriculum development and all other aspects of schooling have a vital and growing role in education in the U.S. Some part of the task ahead for educators, and for the nation as it places faith in educational process, is to insure that research is informed by on-site evaluating, and that on-site evaluating is informed by research on a broader and more abstract scale.

Though there are still demands for structural change, and though

curriculum innovation is all too often an "add-on" sort of event, the feeling seems to be strong in the U.S. that its comprehensive primary and secondary schools, private alternatives and highly accessible institutions of higher learning are basically sound, amenable to needed social adaptations and meeting new priorities.

Chapter VI

IMPLICATIONS OF THE STUDY FOR FUTURE DEVELOPMENTS

In the case studies of three nations representing different degrees of centralization in educational decision-making, as well as in the responses to the questionnaire, a number of trends for the future of educational processes can be identified. Though not necessarily of equal importance, these trends are all presumed to be potentially significant in influencing curriculum change processes in developed countries over the next few years.

These trends may play an even more critical and overt role in shaping the reorganization of curricula and pedagogy in developing nations which are in the process of transition and are therefore perhaps more urgently concerned with adaptive ideas, strategies and materials. Such nations have the advantage of profiting from the experiences of others, and of taking steps both to avoid unsuccessful ventures and to adopt tested procedures for comprehensive educational development.

Creating Permeable Boundaries Between Centralization and Decentralization Structures and Philosophies

Discussions of centralization and decentralization seem always to contain the underlying social-political-philosophical issue of authoritarian versus democratic societies and institutions, and their effects respectively on the people who live, work and go to school in them. It is recognized that where the tradition tends to be authoritarian and the school system relatively conservative, special problems in the introduction of innovations arise. In other words, it is not necessarily the degree of centralization or decentralization, but rather the degree of authoritarianism in either strategic situation which partly explains the openness of different systems

to innovation.

Thus it is possible to view the issue of centralization vs. decentralization as a strategy problem rather than a problem of authority. As a matter of strategy, it appears that educational development tends to benefit more from decentralized decision-making structures, except at the level of innovation having most to do with objectives and functions of the school in its broader social, moral and economic contexts.

In educational systems everywhere in the world, there is a tendency for authorities in educational super-structure to be too optimistic about the effect of the central strategies used, and to take for granted too often the supposition that changes in curriculum guidelines and other innovative measures will automatically change classroom behavior. Reactions from teachers as well as researchers clearly indicate that this is not the case. Strategies cast only in the top-down, administrative mold therefore cannot realistically control or account for all of the decision-making which must be done in the process of educating a nation's people.

It is instructive to note that, in countries where a highly centralized system is in effect, partial decentralization is either already underway or envisioned as occurring over the next few decades. This trend is developing either as the result of planned distribution of decision-making (as in Sweden) or as a response to demands of local school systems and communities that they should participate in decisions about what will be taught, in what manner, and with what expected outcomes. Strategically, the strengthening of decentralized levels of decision-making is not only a recognition of contemporary social reality, but also a facilitation of change through communication and dissemination.

At the same time that predominantly centralized systems are decentralizing certain functions and responsibilities, other educational systems seem

to be moving in two directions at once -- toward more sophisticated local expressions of need and on-the-spot problem solving, and toward more responsive central coordinating and quality-control organization. The United Kingdom, as moderately decentralized, and the U.S.A., as a markedly decentralized system, both reflect this trend. The creation of the Schools Council in Britain and of the National Institute of Education in the United States both serve as exemplars of such central coordinating agencies, although their particular functions are of course, specific to their national settings.

Dividing the Labor in Curriculum Development

The effect of the combined thrusts of increasing centralization of some functions and structures and decreasing centralization of others is to distribute decision-making over three or four levels of educational operations. In the U.S., these levels are national, regional, state and local. In smaller nations, counterparts of the regional and state levels tend to merge into one. Since it appears that the issue of centralization vs. decentralization is not really an "either-or" question but rather a question of what kinds of decisions and processes should be centralized and which should be decentralized in order to reach desired objectives, it is important to conceptualize curriculum development as occurring legitimately at all of these levels. As a result, the process of curriculum development cannot be said to be *one* process, but instead can be identified as different processes at each level, partly related to each other.

Categories of Curriculum Development and Innovation

In order to understand which processes occur at which levels, and why, it is necessary to describe the processes themselves. For purposes of this

discussion, a classification system developed earlier (Razik, 1974) may serve to clarify the issues involved and the reasons why curriculum development is , at its best, a distributed responsibility.

Category 1 - Objectives and Functions

Curriculum development in this category is concerned mainly with broad national (and increasingly, international) economic, political, and social values. Innovations represent new objectives and new functions which the nation wishes to establish in regard to schooling, and these new goals may also demand new educational structures and facilities. In centralized and partly centralized systems, this category is the prerogative of the national government and its agencies. In the U.S., innovation aimed at infusing new values and establishing new structures and functions is divided among national, regional, and state levels, with the national government taking a strong lead on relatively few curricular issues. Specific curriculum changes may be researched and recommended at this level. States have a primary role here from the legal standpoint, but they vary considerably in degree and quality of central control. When local school systems seize the initiative in this type of curricular reform, the result is likely to be an isolated "alternative" or "experimental" school, not a part of a national change strategy. However, in the U.S., local systems may decide upon their own arrangements by grade or ability within a "K through 12" framework.

Developments in category 1, having wider political and social objectives, tend more often to deal with structural and organizational changes indicated by legislated social reform than with strictly "academic" matters, although in nations with highly centralized systems, "courses of study" and groupings of years of schooling as general curriculum specifications tend to be included in this category as matters of national policy.

Category 2 - Organization and Administration

This category is concerned mainly with organizational development -- changes in administrative patterns and decision-making structures within educational systems. Again, in centralized systems, these are normally the sort of curriculum development matters which are addressed by national governments and their agencies. Whether such changes are to have a particular impact in some localities more than in others, or are a general reform, actual change implementation may be delegated to Local Educational Authorities, (LEA's) County Boards or regional arms of the central government, or to agencies performing close linking functions. In the U.S., organizational development work is usually an optional matter, carried on by Regional Laboratory staff, cooperative LEA's and occasionally by research units of State Education Departments, or by other outside consultants from organizations in the private sector, called in by local school systems to analyze and suggest improvements in management practices and similar organizational matters. Teachers' unions may precipitate such action by demands for greater participation in decision-making in curriculum development and related problems connected with their work life in the schools.

Although U.S. schools rarely reorganize internally as a matter of mandate, many are sufficiently interested and self-critical to undertake self-study and to install tentative reorganizations entirely on their own, settling on arrangements which seem to offer the best solutions or the most acceptable compromises. So it is that, even in schools which maintain traditional school board-superintendent-principal-teacher supervisor structures "on paper" (i.e., officially), there is wide variation concerning actual administrative procedures on a continuum from completely authoritarian to completely shared decision-making.

Category 3 - Roles and Relationships

Quite obviously, this category of curriculum development is closely allied with Category 2, for organizational change can scarcely by accomplished without new role definitions and changes in role relationships. All nations seem to recognize that new role definitions are matters of concern for pre-service and in-service training; there is less awareness, however, that changes in role *relationships* are equally critical components of curriculum development. Only when both aspects of role change are addressed can "staff development" be differentiated from traditional in-service training. Further, staff development tends to involve cooperative activities -- undertaken with lay citizen and student participation as well. Staff development is costly in time and money, since outside consultants may be needed, or in-school personnel trained to act as staff developers may need to be added to the payroll.

Role change and role relationship change initiation, like organizational development, is normally a delegated activity even if planned and mandated by central governments. In less centralized systems, the options are the same as for organizational development, and are usually initiated at the LEA or local levels. In Britain, Teachers' Centres are assuming some of the responsibilities for staff development, and such centers are slowly being organized in the U.S., after the British model -- entirely at the initiative of local systems and most often at the initiative of teachers themselves.

Incentive systems play a part in role change and role relationship change. Incentives are not necessarily monetary or promotional; they may be in the form of released time, intrinsic sense of accomplishment when useful curriculum products result, or operational changes in status (as in shared decision-making regardless of position in the school hierarchy).

Some hidden "incentives" may be of the negative variety, forcing change through union action or supervisory mandate or other naked power tactics. These incentives achieve rapid role accomodations of one sort or another, but human relationships can rarely be achieved through law and regulations, for they are determined by a complex combination of structure, power distribution, decision-making processes, role expectations, personal characteristics and relationships, and incentives. So far these inter-relationships have not been studied in depth in educational systems even in developed nations. Educators are only just beginning to understand how they can be changed. This fact helps to explain why staff development personnel are a rarity in local school systems. Although curriculum supervisors or specialists may be employed or called in from regional resource agencies, their duties normally do not include training staff for changes in role relationships. There are notable exceptions, of course, but misunderstandings of the question on interpersonal relationships in curriculum development in the survey instrument for this study, as well as admitted lack of emphasis on the problem, seem to indicate that few nations have undertaken the task of dealing with role relationships in educational settings with expertise and vigor. Human relations are a complex problem area. When such problems have been addressed, it has usually been at the level of national or regional agencies, as self-construction activity or "team development," and for the most part has been confined to Sweden and to some units in the U.S.A., Britain, and Canada.

It is a question whether curriculum innovations which affect roles and role relationships can be "disseminated" and implemented in the customary ways -- through publication and through content-oriented in-service training. Classroom practice, the relationships between students and teachers, the

relationships between professionals, and the way decisions are made and acted upon in the schools have not changed dramatically. Traditionally this question has been looked upon as a technical problem. With more resources, more information, better use of mass media, developments would be disseminated and implemented. But such an assumption basically ignores the fact that teachers and students, as well as parents and other members of the lay community, have their own values, attitudes and understandings concerning the patterns of authority and the use of curriculum innovations. These must not only be taken into account, but actively encountered, altered if possible and advisable, or incorporated in curriculum revisions which may be more acceptable. In other words, curriculum change is most properly an internal negotiating process, once broad goals and perspectives are established by external authority or by a combination of external and internal forces. Role differentiations are normally an underlying agenda in all such negotiations. This seems to be most clearly and formally recognized in Sweden's conceptualization of "rolling reform."

Even changes in educational structure (Category 1 - objectives and functions) are never really "implemented" if they are not followed by an "internal development process" that affects the decision-making structures and role relationships. Any country with a centralistic machinery which has successfully implemented new educational structures can quite easily fall into the mistake of continuing a centralistic political-administrative strategy for the implementation of curriculum innovations (in Categories 2 and 3, administrative and organizational development and role relationships) which are qualitatively different, and probably can be implemented only through other strategies.

Innovations in curriculum, then, are seen to have two components which

are closely related but not necessarily integrated exactly as planners have imagined:

1. A goal or value component which deals directly with the normative changes implied in these types of innovations.
2. A technical component which deals with questions like the revised content of a certain subject, with new text books, examinations, new methods and organizational structure as a means of achieving new objectives.

It is quite clear that curriculum innovations in the area of teacher and student behavior mean behavioral changes on the part of the teacher and/or student.

Behavioral changes usually cannot take place without basic attitude changes. It must be admitted that, in light of the strength of professional groups, it is students and parents who are required to do most of the changing, regardless of whether or not this provides the best solution to a given problem. Educators do not necessarily "know best" -- and as one questionnaire respondent noted, they tend typically to perpetuate middle class and ignore other social values.

Other Constraints in Curriculum Development and Implementation

Decisions concerning the most appropriate levels for particular curriculum development activities and lack of adequate staff development procedures and linkages impose serious constraints on research, development and diffusion mechanisms. As Havelock (1975) has indicated, a social interactive model must be integrated with RD & D if effective implementation is to be expected.

There are a number of other significant constraints which must be

admitted to consideration. These are commented upon briefly here.

1. *Financing* - Most school systems feel the economic pinch of the current era and note especially that monies for research and for staff development are hard to find. Even if over-all educational financing is generally adequate, there is no consensus as to how it can best be utilized.

2. *Behavioral objectives and technologies* - Some countries find precise statement of behavioral objectives in curriculum development a serious constraint, demanding huge resources of time and money and yielding results that are far too inconclusive. Others -- in particular, many educators in the U.S. -- find specification of behavioral objectives indispensable to effective curriculum development and to objective measurement of achievement.

3. *Examinations* - measuring student learning is a knotty problem in every system. Sweden reports serious controversy over its grading reforms, and the United Kingdom countries are still involved in decisions concerning the substitution of examinations at least partially constructed by school staff for national general achievement testing which selects students for entrance to higher education. In the U.S., the situation is pluralistic, with nationally standardized achievement tests being administered for diagnostic purposes, but also for receipt of scholarships and for consideration by college admissions officers. Such examinations do not solely determine entrance to higher education (other factors are considered), but are admittedly influential.

School exams are normally teacher - constructed, and promotion to next

grade levels depends on passing these. Occasionally, teachers in a particular subject matter department or unit jointly constructed tests which are used in all classrooms where that subject matter is taught. School-made examinations may be supplemented by a state "regents" alternative. Regents examinations are constructed by subject matter experts (normally, master teachers) who are released by their school systems to work in committee under the auspices of the state education department. Passing these examinations usually signifies that a higher degree of competence has been attained. The assumption, usually borne out in practice, is that regents examinations are more difficult than school-made exams. Teachers who favor school exams say that the differences in difficulty are a function of rigidity in expectations, and that school exams are likely to test content and skills of greater relevance to students, and ultimately, to society. Some states have completely abandoned regents examinations; others are converting to a system of "mastery" examination of minimum competence which high school completion would signify. New York State is an example of the latter.

Whatever the particular testing situation in responding nations, the need to examine student achievement is recognized as a constraint on the curriculum, and some educators feel, on the extent and depth of learning itself. Examinations particularly militate against inquiry learning, the process of "learning how to learn" and to solve problems, which educators value but seldom are genuinely successful in implementing. Some observers believe that inquiry learning and measurable achievement are at root antithetical; others suggest only that "measurement" is conceived too mathematically and normatively and that other means of evaluating student progress must be found.

Testing is perceived also as a serious constraint by educators concerned

with equal opportunity for various kinds of disadvantaged groups who may not have skills in test-taking of the traditional sort. These educators believe that intelligence and talent goes wasted simply because test-sophistication and test-taking sophistication are lacking -- the tests are not good enough and even if they were, not everyone knows how to display what he knows and understands on standard types of tests.

4. *Research efforts* - "Piecemeal" research, or research in response to crisis obviously does not provide the broad base of data and interpretive information which educators need to plan innovations which are scientific, culturally and socially acceptable, and personally satisfying to the persons influenced by these changes. But funding for systematic, broadly based and integrated research is very costly and school personnel trained to carry out such research simply do not exist in most countries. Since the whole concept of research-based comprehensive planning in education is very new, borrowings of researchers from other fields of endeavor may be inevitable if the task is to be accomplished. Few of the responding nations use researchers from outside of their particular educational system or from outside of their own nations. The rationale given is that outsiders do not have appropriate information. What is clearly not recognized is that research in comprehensive planning is itself a specialized skill, transferrable from one setting to another. Swedish planners seem to have developed the skill among their own personnel, undoubtedly by combining their own resources with the best information they could gather from their industrial communities and, it seems likely, from international experts in systems planning.

Comprehensive planning for research means that research activity will take place at all levels of educational institutions. Schools participate in feedback cycles to researchers and in input cycles from research information

and new research directives. In such a system-wide research orientation, local schools need not initiate their own research projects on their own funding; they are already full participants in the design and implementation of new research in cooperation with other schools and in close contact with research representatives. This is apparently an anticipated strength of the Swedish system, though it has not been carefully spelled out by respondents to the questionnaire.

5. *Lack of dynamic interactions* - Comprehensive systems planning, at its best, provides for the dynamic, continuous interaction of all components of the educational system -- including all levels, all linkage mechanisms, all personnel, and all curriculum development activities. Changes are perceived in interactive systems to be mutually arrived at, rather than imposed by one level upon another. Sweden's rolling reform has such dynamic characteristics, as do many projects at decentralized levels in other nations. Even under the constraints previously described, systems which are dynamically interactive have considerable freedom to decide, together, important matters of financing, instructional design, levels of staffing and role relationships, media use, research participation, staff development activities, and building utilization.

It is possible in nations where education is regarded as a main instrument in social policy, to convert that social policy itself into a series of dynamic interactions, involving active dialogue within levels and across levels of educational agencies and institutions. In such a context, the "objectives-means-output" paradigm looses its static features and becomes a constantly self-adapting, environmentally connected and operationally effective mechanism for educational reform.

6. *Limited understandings of curriculum, instruction, staff development and other terms as employed from the perspectives of dynamic interaction* - Expressions such as "courses of study," "every thing the child learns in school," "the implementation phase" and "role relationships" may be differently understood in different countries precisely because some educators place these terms in frameworks of dynamic social interaction and some do not. The problem universe under consideration in curriculum development as in other school-related activities grows immensely complex in the dynamic interactive understanding, and curriculum is as difficult to separate from instruction as learners are difficult to separate from learning. This may account for the problem several survey respondents had in constructing "either-or" definitions for curriculum and instruction. As socially interactive instrumentalities, one does not begin where the other leaves off; they are planned and activated dynamically.

The complexity of variables which must be dealt with in the dynamic interactive view initially deters its adoption. Once the distortions inherent in a more static or linear-progressive point of view are recognized, however, it no longer serves to explain, predict, or influence what occurs. There are heavy constraints on time and energy involved in procedures and planning based on the dynamic interactive paradigm, but so far, it has a rather impressive record for solving problems which other points of view and methodologies cannot.

7. *Problems with integration of learning and learning methodologies at all age levels throughout formal educational period* - This area of constraint involves consideration of the full range of learning experiences, from pre-school to on-the-job training to life-long learning, for the development of skills and learning capacity, for humanistic growth and satisfaction,

and for the common social gain. The problem is to achieve an appropriate balance among all these elements, making them accessible at times when they will be most useful. Again, Sweden seems to be a "front-runner" in the attack on these problems, seeking in comprehensive reform to fit all these elements together in a logically consistent, operationally viable, and socially productive way. Their experiment is an important one to observe and understand, for whether it succeeds or fails ultimately, it is a prototype of the sort of dynamic interactive pattern which seems to be needed.

Those respondents who have seen some merit in an international core curriculum, adaptable to cultural pluralism, may not be impractical idealists but persons whose view of reality includes a vision of dynamic international social interactions occurring at a phenomenal rate in the 21st Century. In fact, several proponents of the idea implied that, at the very least, a core curriculum in international understanding, based on social science and communications disciplines, might go far toward improving the world of the future.

Some Predictions and Recommendations

It seems that the schools of the nations on both sides of the Atlantic are well on their way to becoming agents of change, as well as transmitters of cultural expectations. The trends toward mass education beyond the elementary level and the initiation of comprehensive planning simultaneously for all levels of pre-professional or university education are themselves revolutionary procedures of change. Even institutions of higher learning are feeling the pressures to become more relevant to and interactive with their environments. This is particularly true in colleges and institutes of teacher education, where faculties are involved with curricular reform in comprehensive schools, and in turn are asked to revise their own commitments and

practices to train teachers capable of carrying out innovations and performing new roles.

Tightening job markets are beginning to force the issue of broader and more effective vocational guidance and training, interlaced with theory appropriate to these vocations and aimed at career adaptability. Sweden's development of nearly thirty vocational lines, with possible cross-overs in some courses, is wholly unprecedented at the secondary school level, and even if not fully implemented, is a move which reflects an awareness of vocational realities in the developed world.

Increasing efforts to develop effective use of basic skills and to institute workable systems of inquiry learning, value discriminations and social problem solving will undoubtedly be made. Despite the feeling of lay citizens in all nations that something is "wrong" and students are not learning as well as they used to, "learning how to learn" has become a priority, even at the sacrifice of richness of content knowledge. To increase efficiency of learning in both basic skill and content areas, individualized instruction and media resources will be increasingly utilized, with humanistic group seminars rounding out the technological side of learning.

Examinations will not disappear, but other performance criteria, such as activity in non-school settings (community work assignments, on-the-job training, etc.) will become routine parts of the total assessment procedure.

Nations will move toward comprehensive, centralized curriculum reform mechanisms as a means of developing system-wide change, but these mechanisms will be oriented toward dynamic interaction and central agencies will therefore be no more important than local school districts in setting goals and assessing educational outcomes. The United States, because of its size and

its vital tradition of localism in schools, will modify this trend, but will nevertheless accept in principle the need for greater emphasis on central educational systems planning. Research and evaluation and staff development will become integral parts of this comprehensive sort of planning and implementation.

Cultural diversity will be maintained within nations and among nations, but inter-cultural conflicts will lessen as curricula respond to the challenge to develop in students a broader understanding of the common humanity of persons despite markedly different life styles and cultural histories.

Recommendations for planning to bring these and similar changes about are in, some cases, obvious.

1. A *national-curriculum development policy*, requiring national political decisions, will be needed in those countries which have not yet enacted such a policy, in order to achieve the necessary redistribution of resources and shift in priorities. It must be so constructed as to define and redefine continuously the nature, objectives and functions of education in changing social and economic contexts. It need not establish central decision-making of an authoritarian kind; its role is to lay down the conditions for change, not to direct and control those changes. Policy decisions should provide for communications networks as a basis for interactive dialogue through all parts of the system.

2. *Local curriculum innovation policies* are the substance of a second recommendation. This study has already argued extensively for local participation in the curriculum innovation process. Curriculum innovation may be the most important opportunity for learning in schools. This, however, will be true if the users, i.e., the "consumers" of the educational "product" -- the students and their parents -- are fully engaged in the process, from

problem identification to implementation.

A local curriculum innovation policy does not mean giving increased authority to those who already hold power, but rather creating conditions for continuing dialogue in the school, and between the school and the regional and central bodies. Careful consideration should be given to those aspects of policy which encourage a problem-solving attitude and an innovation climate. The main objective of a local curriculum innovation policy should be to encourage and facilitate innovations in schools. This would, of course, imply a support structure at higher levels, but moreover it would necessitate a continuous analysis of external and internal constraints, reconsideration of arrangements for management, organizational patterns, incentives, and leadership functions. This process may be the most important learning process for administrators, teachers, students, and others who participate in it.

3. *Curriculum innovation support structures* are in need of redesign and reorientation. Any educational system today uses special institutions and programs. A standard concept of administration is that it shall provide support structures and activities such as teacher training, the production of textbooks, the use of inspectors, and in-service training. Major changes are necessary in institutions where this concept prevails, if desirable curriculum innovations are to materialize. There are three important kinds of structures which need to be added, or in some cases strengthened.

The first, local *Teachers' Centers*, are not widely established except in England. They play an important role in innovation and dissemination. Though their functions and impacts differ from country to country, they seem to serve these purposes in every case: (1) They provide an information

center for teachers in a local area; (2) They act as an in-service training center for teachers and administrators; (3) They are used as a demonstration center for innovation practices (developed inside or outside of the local area); and (4) They serve as an experimental center to assist teachers in their innovation tasks, providing both professional and technical personnel and materials. If teachers' centers could be staffed with "master teachers" or "process experts" as well as subject specialists, they would be a major stimulus in the curriculum development and innovation process, and would provide a reasonable substitute for a network of school inspectors. Consultations with "resource people" are likely to be far less threatening and more productive than with persons who have the aura of authority implied by the term "inspector."

Teachers' Centers would be an ideal base for the operations of a *researcher*, who in a role appropriate to such centers would be defined as a "resource person with research qualifications" who can be a "process facilitator and evaluator" in the schools. In addition, he would be able to assist schools and regions in the evaluation of new educational products developed inside or outside the region. The researcher could also serve as a resource person in relation to research and development activities, whether initiated at the local level or at other levels but involving the local system. This is the second kind of structural change in support systems which seems useful.

It is possible that, in a network of Teachers' Centers, some would choose to specialize in particular kinds of development work and others would find themselves developing a different specialty. Such a division of labor could benefit all, as long as local priorities are also met.

The third suggestion which falls into the category of recommendations

for support systems is for the formation of a national information network in those countries which do not yet have such communication channels. There are several reasons why a distributive information system is needed:

1. Educators consistently underestimate the complexity of the change process in curriculum and innovation.

2. Program change, when it takes place, usually occurs because a personal relationship has been established by the person introducing change and the consumer.

3. Unless systematic channels of communication involving personal contact are established, the change will be difficult to maintain.

4. It is hard to find elements in new programs which are so rewarding that they will overcome the fears and anxieties raised by departing from the educational status quo.

5. Expansion of information services does not automatically generate interest in using such services (teacher education facilities can perform roles in encouraging such use), but their accessibility to all of the staff persons in educational systems is one of the best ways of encouraging efforts at self-improvement, and increasing the user's capacities for problem solving.

Summary

The increase in variables and the decrease in time available to accomplish crucial social goals in school settings tends to appear overwhelming to today's educators. Nevertheless, as the survey has shown, they are not giving up on the possibility not only of organizing the apparent mass confusion but also of creating progressively excellent educational opportunities and achievements.

The commitment of respondents to curriculum and other school change is striking; no one is satisfied with matters as they presently stand. However, the solutions, if they exist, are not viewed as academic, political, social, or economic alone, but as emerging from successful combinations of all these factors in more comprehensive school planning. No one seems quite certain

how to undertake change, whether through gradual accumulations of change strategies and products or whether through massive, all-at-once reform, and the option most attractive is probably related to whether one prefers inductive or deductive methodologies. The systems approach, and perhaps other dynamic interactive models which may be developed as well, seem to have the best chance of serving both hypothetical-ideal and empirical-real ends.

The purpose of this study has been to examine "what is," and as a next step, to imagine "what may be." It is believed that respondents have been both frank about the first matter and creative about the second. A rudimentary model, composed of elements drawn from all kinds of source materials utilized in the study, is presented here in the form of a series of notations and recommendations. Together with earlier chapters, it is hoped that these tentative conclusions may serve as a starting point for further discussion, not only in developing countries, but in the international educational community of developed nations, as well.

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APPENDIX 1

QUESTIONNAIRE

UNESCO
Contract 205332
State University of New York
at Buffalo
10 February 1977
Original: English

COMPARATIVE STUDY ON CURRICULUM DEVELOPMENT MACHINERY AND DEVELOPMENT IN DEVELOPED COUNTRIES

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Contract No. 205.332

QUESTIONNAIRE

I. History of Curriculum Development

A. Please indicate with a check (✓) the items which you feel represent the major influences in the historical development of curriculum in your country:

_____ 1. Governmental planning agency - National
_____ 2. Governmental planning agency - State
_____ 3. Governmental planning agency - Local
_____ 4. Teacher councils
_____ 5. Use of curriculum models from other countries
_____ 6. Influences of industrial development
_____ 7. Influence of social and moral pressures of community

b. In most developed countries, the trend is toward equal educational opportunity for all citizen groups. Please identify with a check (✓) the factors which you think have contributed most to this trend in your country:

_____ 1. Increasing public interest in education
_____ 2. Need for more adaptable labor force, able to solve problems of rapidly changing society
_____ 3. Development of instructional techniques which increase efficiency in learning
_____ 4. Changing patterns of authority and moral sanctions
_____ 5. Need for greater numbers and training of specialists
_____ 6. Greater financial resources available for education
_____ 7. Great increase in subject content, availability of new materials and equipment for mass education
_____ 8. Pressure of central government toward more democratic school policies
_____ 9. Social demand for more interaction between school and community
_____10. Realization of educators that knowledge is an activity, not a commodity
_____11. Public demand for life-long learning opportunities
_____12. Need to prepare students for more complex modern life, whatever their adult occupations may be
_____13. Example of other advanced nations which seek to conform to patterns of democratization in education
_____14. Development of planning activities which bring together both citizens and educators
_____15. Other (Please specify.) _____
_____
_____
_____

II. Organization and Structure

A. The degree of centralization of educational structures and controls is an issue in most curriculum development. How is your educational system currently organized with respect to:

1. The national government?

2. Regional educational authorities and agencies?

3. Local communities?

B. On a descending scale, 1 through 10, please rank the following kinds of structures and groups in order of the importance in the overall curriculum development process in your country (1 = most important; 10 = least important):

_____ 1. Federal Agencies
_____ 2. State or Regional Agencies
_____ 3. Local Agencies
_____ 4. School Administrators
_____ 5. Teacher Groups
_____ 6. Individual Teachers
_____ 7. Parents - Citizen Groups
_____ 8. Curriculum Planners
_____ 9. University and College Scholars
_____ 10. Students
_____ 11. Citizen-Educator Groups
_____ 12. Other: Please specify.

C. What specific agencies, institutions, or officials have been charged with overseeing curriculum development processes (if any), and to whom are they accountable?

III. Legislative and Social Framework

A. What legislative actions has your government taken within the past 20 years which you feel have contributed most to the advancement of education? (e.g., equal opportunity decisions, grant and scholarship opportunities, school funding, changes in examination procedures, etc.)

B. What legislative actions do you think are currently needed to improve the quality of education?

C. Approximately what percentages of national, regional, and local budgets are allocated to education?

1. _____% National
2. _____% Regional
3. _____% Local

D. Please specify other kinds of sources of educational funds, if any, (e.g., private corporations, benevolent organizations).

E. Specifically, how are curriculum development efforts funded in your country and how are these funds distributed?

F. Of the total educational budget in your country, approximately what percentage is earmarked for curriculum development?

_____%

G. How is your national government made aware of funding needs for curriculum development?

H. How would you characterize public sentiment toward education in your country? (Please check (✓) the statements which you find most applicable.)

_____ 1. Demand for greater educational opportunity for all
_____ 2. Apparent satisfaction with the current educational system
_____ 3. Demand for greater emphases on career (rather than strictly academic) education and therefore an interest in applied arts and sciences
_____ 4. Demand for greater recognition of affective elements of education and therefore an interest in changing student/teacher relationships
_____ 5. Unrealistic tendency to expect education to solve all social problems
_____ 6. Uneasy feeling that though mass education is here to stay, attention to individual needs is insufficient and has not kept pace with school democratization
_____ 7. Children are not as well educated as they used to be; achievement standards have been sacrificed to social equality
_____ 8. Demand for accountability of effectiveness of educational programs
_____ 9. Other: Please specify. _____
_____
_____

IV. Analysis of Current Curriculum Development and Change Processes

A. How does curriculum change occur in your country? Please indicate with a check (✓).

_____ 1. "Top down," with top administrative officers mandating change and directing the efforts of subordinate staff
_____ 2. "Grass roots," with change initiated and implemented in individual schools at local level

_____ 3. "demonstration," with changes introduced on a small scale via specific projects conducted in select classrooms, schools or groups of schools
_____ 4. combination of the above

B. What are major problems encountered in the adoption of proposed changes?

C. To what extent are successive revisions a built-in part of the process of curriculum change?

D. To what extent are interpersonal relations considered and planned for in the process of curriculum change?

E. Curriculum development projects are often a response to other events. Please check (✓) one or more of the events listed below which you think have the greatest influence on curriculum development in your country:

_____ 1. Educational or other Research
_____ 2. Scientific or technological advance
_____ 3. Social changes
_____ 4. Change within Educational Systems
_____ 5. A new, special educational need

F. To what degree is curriculum planning an on-going activity?

. Decision-Making Patterns

A. The following have been identified as possible loci or "arenas" for curriculum change efforts. Please check (✓) the frequency with which each of the following locations are utilized in curriculum development in your country:

	Never	Sometimes	Often	Very Often
. single classroom	_____	_____	_____	_____
. single school	_____	_____	_____	_____
. local school system	_____	_____	_____	_____
. entire state or region	_____	_____	_____	_____
. entire nation	_____	_____	_____	_____
. regional research and development centers	_____	_____	_____	_____

B. In curriculum change processes, how are decisions actually made? (Please check (✓) items which are applicable.)

_____ 1. by decree of national government
_____ 2. by school administrators
_____ 3. by trained curriculum researchers and developers
_____ 4. by teachers in their own classrooms
_____ 5. by teachers who participate in planning groups
_____ 6. by community advisory boards or parent representatives
_____ 7. by students who participate in planning groups
_____ 8. all of the above

C. Please indicate with a check (✓) which groups you think <u>should</u> be involved in decision-making about curriculum development:

_____ 1. central government officials, experts
_____ 2. college and university scholars
_____ 3. school administrators
_____ 4. classroom teachers
_____ 5. parents and citizens groups
_____ 6. unions
_____ 7. students
_____ 8. curriculum specialists within schools
_____ 9. curriculum specialists in regional educational agencies
_____ 10. commercial curriculum development organizations
_____ 11. Others: Please specify. _____

_____

_____

I. <u>Personnel Selection, Training, and Promotion</u>

A. Which of the following groups receive training in curriculum development prior to beginning their educational careers in your country? Please indicate with a check (✓):

_____ 1. school and regional administrators
_____ 2. curriculum designers, researchers, and evaluators
_____ 3. classroom teachers
_____ 4. special teachers (e.g., media, library, art, music)
_____ 5. teachers' aides

B. Which of the following groups receive additional training in new curriculum development concepts and techniques <u>after</u> they begin their educational careers?

_____ 1. school and regional administrators
_____ 2. curriculum designers, researchers, and evaluators
_____ 3. classroom teachers
_____ 4. special teachers (e.g., media, library, art, music)
_____ 5. teachers' aides

C. What training methods are used? (workshops, in-service education, continuing education, pre-service formal education, <u>frequency</u> of updating training, etc.)

D. How are paid staff rewarded for work on curriculum development projects? Please check (✓).

_____ 1. no reward
_____ 2. possible promotions
_____ 3. possible pay raises
_____ 4. extra pay during project period
_____ 5. travel expenses for conferences paid
_____ 6. released time
_____ 7. payment of expenses for training or further education related to the development project

E. What changes would you recommend in current selection, training, and promotional practices in relation to curriculum development efforts?

VII. Role of Research in Curriculum Development

A. To what extent is research in curriculum development in your country:

1. a recognized part of curriculum change?

2. supported by planning and funding agencies?

e. the consciously-planned responsibility of well-trained researchers who can employ a wide variety of research and evaluation techniques?

B. What would you like to see changed in current research and development practices in curriculum?

C. On the basis of 100 percentage points, please indicate what portion of research you think should go to the indicated areas:

1. _____% New Content
2. _____% New Methods
3. _____% New Materials
4. _____% New Designs for School Facilities

5. ____% New Models for Curriculum Development
6. ____% Other: Please specify. _____

_____

_____

D. Dissemination of new concepts and techniques in curriculum development is a responsibility that is often not clearly defined. Please check (✓) the persons or groups listed below which you think should be involved in dissemination:

_____ 1. central government
_____ 2. administrators
_____ 3. teachers
_____ 4. researchers
_____ 5. media specialists
_____ 6. public relations personnel
_____ 7. commercial developers
_____ 8. curriculum specialists

VIII. Exchange with Other Countries

A. Does your country cooperate with other regional systems and countries in any of the following ways? Please check ( ) as appropriate:

_____ 1. conferences on curriculum research and development
_____ 2. visits of educational personnel to schools in other countries
_____ 3. teacher exchanges
_____ 4. student exchanges
_____ 5. exchange of professional journals, books, other printed materials
_____ 6. exchange of personal correspondence concerning curriculum development
_____ 7. arrangement of cultural trips for student groups
_____ 8. employment of educational consultants from other countries for special projects
_____ 9. joint research projects and/or theoretical curriculum model-building
_____ 10. release of educational personnel for sabbatical studies in other countries
_____ 11. international conferences (OECD, UNESCO)

B. What advantages or disadvantages do you see in the possibility of standardizing core curriculum internationally? Do you believe that students in every nation study essentially the same basic content and seek to acquire basically the same skills? Can individual cultural traditions be preserved even if a standard core curriculum is offered in all nations?

IX. Evaluation

A. Educational evaluation is often inadequate either because it is not well planned or because evaluators are not trained to make the particular assessments they must make. What personnel or groups in your country normally make evaluative decisions concerning the following?

1. actions of political educational decision-makers?

2. statements of broad curriculum policies?

3. qualifications and performance of curriculum developers?

4. qualifications and performance of school administrators?

5. qualifications and performance of teachers?

6. qualifications and performance of students?

7. what is taught (information, skills, and attitudes)?

8. teaching strategies (group or individual, laboratory or lecture, etc.)?

9. teachers materials (curriculum guides, syllabi, bibliographies, etc.)?

10. student materials (textbooks, films, etc.)?

11. total learning experience?

12. degree of relationship between curriculum planning and instruction?

B. To what extent are external evaluators employed in specific change processes? That is, how often are projects evaluated by persons who come from outside a given educational setting and who have no vested interest in either a particular change process or in the preservation of the status quo?

C. To what extent are field trials and preliminary evaluations made before new curriculum materials and practices are recommended for adoption?

D. Is your evaluation process primarily summative or formative, and at what levels? Please check (✓).

	Summative	Formative
1. Basic Values	____	____
2. Defining Objectives	____	____
3. Assessing Capabilities	____	____
4. Selecting Content	____	____
5. Teaching and Learning Activities and Environments	____	____
6. Implementation	____	____
7. Developing and Selecting Instructional Materials	____	____

X. Personal Observations

A. There has been marked confusion concerning the differences between "curriculum" and "instruction." Please define each term below according to your own understanding of it:

Curriculum:

Instruction:

B. When you look ahead toward educational theory and practice in the 1980's, what changes do you envision and how can curriculum developers prepare to meet these changes?

C. Other comments:

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